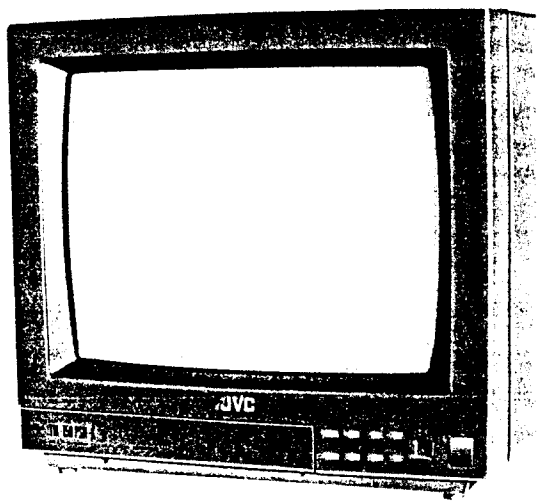
JVC

SERVICE MANUAL

36cm MULTI-SYSTEM COLOUR/RGB MONITOR

MODEL TM-150PSN-K



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SPECIFICATIONS (Design and specifications subject to change without notice).

Dimensions: : 37.8 cm(W) x 40.7 cm(D) x 34.9 cm(H)
Weight : 11.7 kg
Colour System . . . . . PAL/SECAM/NTSC (3.58 MHz, 4.43 MHz)
Scanning . . . . . 625 Lines, 50 Hz (PAL/SECAM) 525 Lines, 60 Hz (NTSC)
Input A/B
  Video . . . . . 1 Vp-p, 75 Ω, BNC Type
  Audio . . . . . 390 mVrms (-6 dBs), Hi Impedance, RCA Type
VTR (EIAJ 8 Pin)
  Video Input . . . . . 1 Vp-p, 75 Ω
  Video Output . . . . . 1 Vp-p, 75 Ω
  Audio Input . . . . . 1 Vrms (2.2 dBs), Hi Impedance
  Audio Output . . . . . 100 mVrms (-17.8 dBs), Low Impedance
Line Output
  Video . . . . . 1 Vp-p, 75 Ω, BNC Type
  Audio . . . . . 300 mVrms (-8 dBs), Low Impedance, RCA Type
RGB (AV) Connector . . . . . 21 Pin Connector
Scan Frequency . . . . . H. 15.75 kHz/15.625 kHz V.50 Hz/60 Hz
Power Input . . . . . 120 V ~ 240 V AC, 50 Hz/60 Hz
Power Consumption . . . . . 75 W (max.)
Picture Tube . . . . . 36 cm In-Line Type
Viewable Picture Size . . . . . 28.5 cm(W) x 21.3 cm(H)
High Voltage . . . . . 24.5kV ± 1 kV (at zero beam current)
Speaker . . . . . 8 cm round type, 8 Ω
Audio Power Output . . . . . 1.5 W

No. 5764
Sep. 1985

1. FEATURES

- Adoption of a full-square picture tube offers two distinctive merits of an evenly flat screen and square-shaped corners, facilitating playback of images clear at every edge.
- Capable of reproducing under three color systems of PAL/SECAM/NTSC (3.58 MHz, 4.43 MHz).
- Provided with video/audio input terminals of three systems interchangeably used with three units of video equipment.
- Equipped with RGB (AV) Connector.
- Automatically switchable between PAL and SECAM color systems.
- AC power source copes with a wide voltage range of 120 ~ 240 V.

2. OUTLINE

■ INPUT SWITCHING METHOD

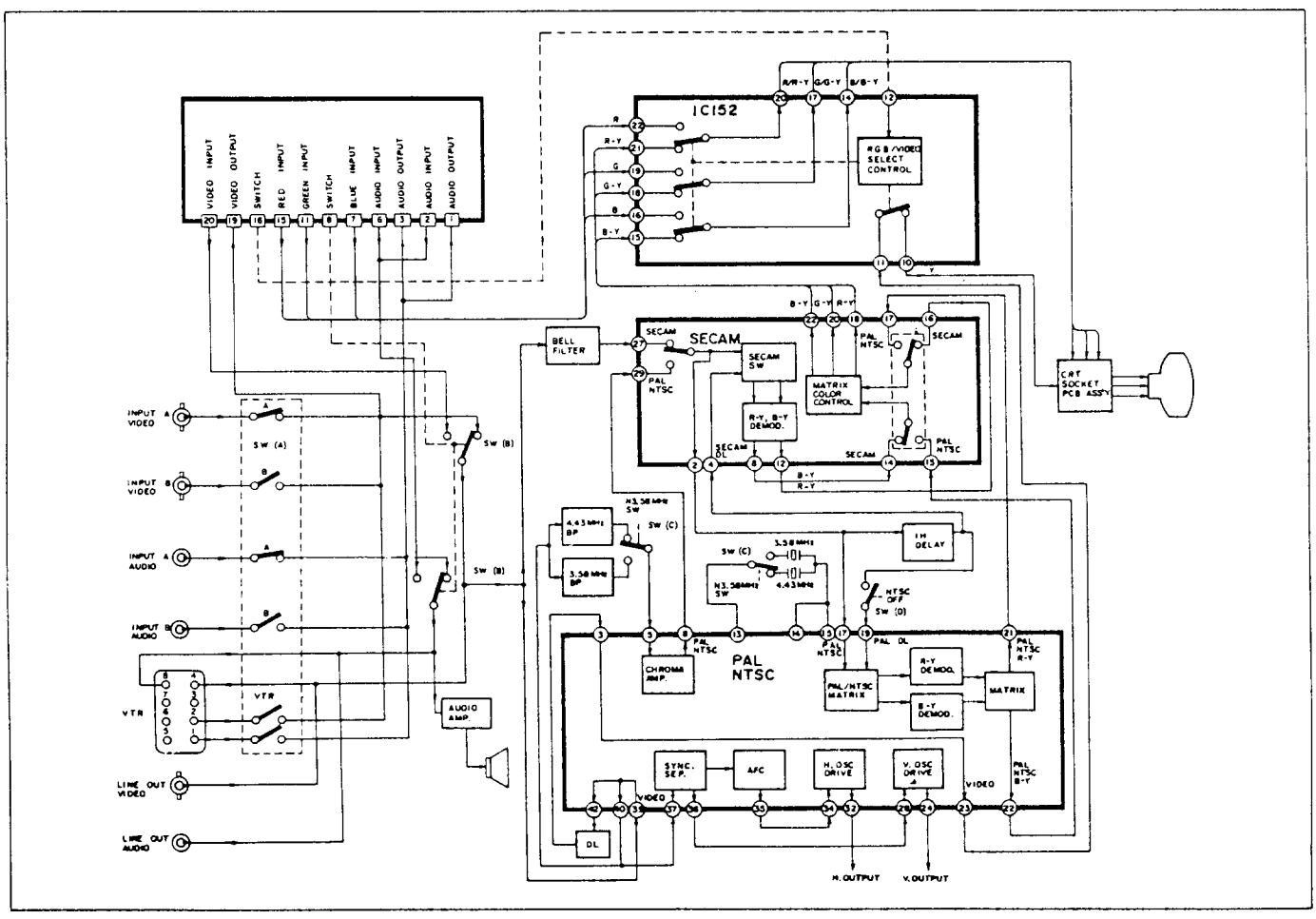
- Selection among input A, input B, and VTR input can be made through causing the SW(A) shown in the figure below to be switched by shifting the input change-over switch on the unit front panel.
- Selection between RGB (AV) connector input and VIDEO input can be made by shifting SW(B) and IC152 switch shown in the figure below.

■ COLOR SYSTEM SWITCHING METHOD

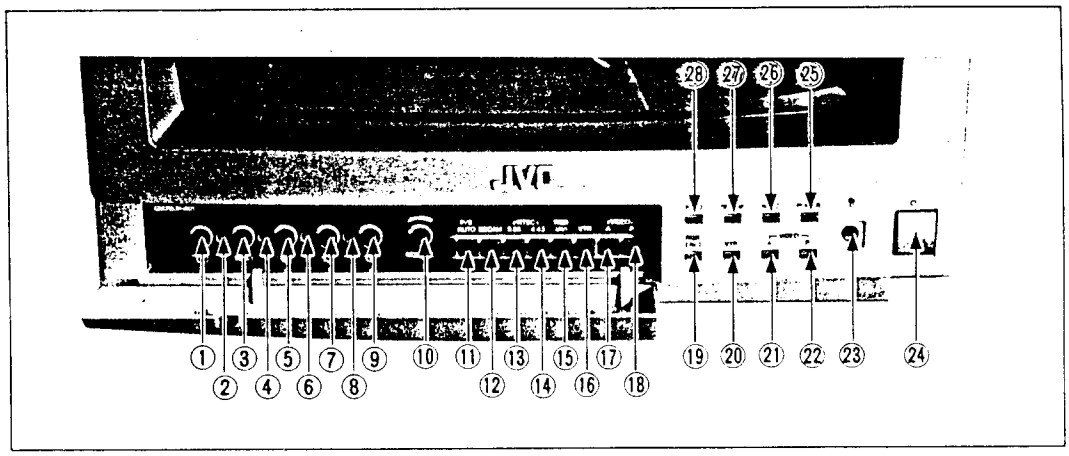
[P/S AUTO]
The PAL system and the SECAM system are automatically switched by using as switching signals the killer voltage of PAL/SECAM circuits.

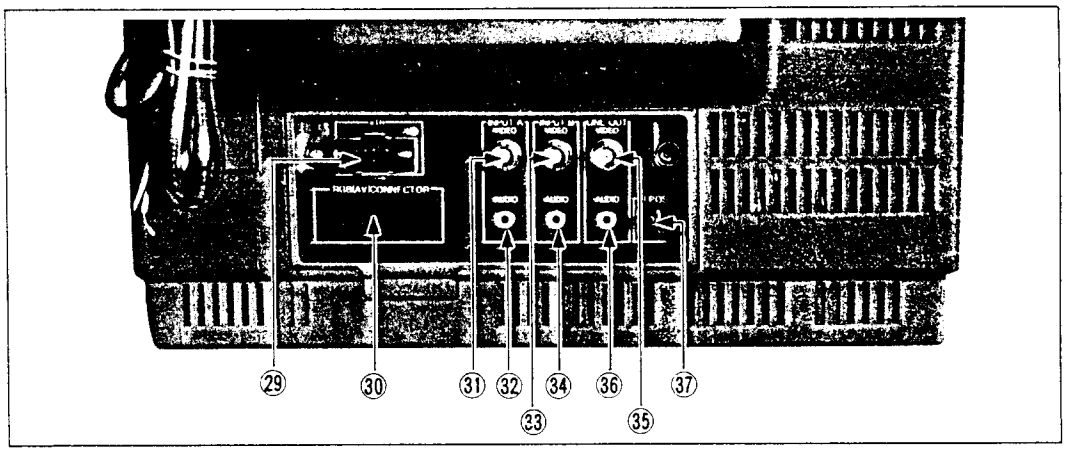
[NTSC]
The NTSC system can be displayed by turning on the NTSC switch on the unit front panel. SW(D) shown in the figure below is turned OFF.

[NTSC 3.58 MHz/4.43 MHz]
Selection between 3.58 MHz and 4.43 MHz of the NTSC system can be made by shifting the NTSC switch on the unit front panel. By this shifting, SW(C) shown in the figure below is switched.



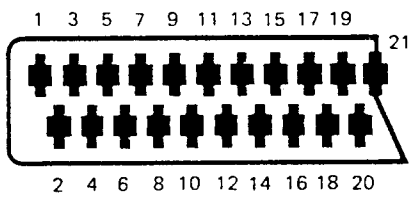
3. FUNCTIONS



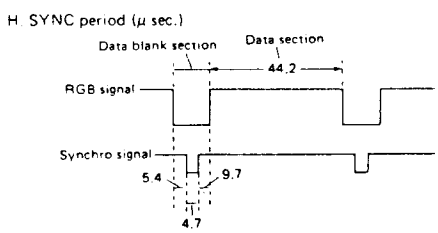


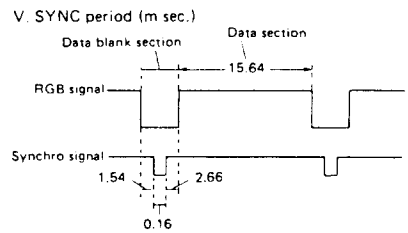
1. V. HOLD
2. SUB TINT
3. TINT
4. SUB COLOUR
5. COLOUR
6. SUB BRIGHTNESS
7. BRIGHTNESS
8. SUB CONTRAST
9. CONTRAST
10. VOLUME
11. P/S AUTO SWITCH
12. SECAM SWITCH
13. NTSC (3.58) SWITCH
14. NTSC (4.43) SWITCH
15. RGB (AV) SWITCH
16. VTR SWITCH
17. VIDEO A SWITCH
18. VIDEO B SWITCH
19. RGB (AV) INDICATOR
20. VTR INDICATOR
21. VIDEO A INDICATOR
22. VIDEO B INDICATOR
23. EARPHONE JACK
24. POWER SWITCH
25. POWER INDICATOR
26. NTSC INDICATOR
27. SECAM INDICATOR
28. P/S AUTO INDICATOR
29. VTR CONNECTOR
30. RGB (AV) CONNECTOR
31. INPUT A (VIDEO)
32. INPUT A (AUDIO)
33. INPUT B (VIDEO)
34. INPUT B (AUDIO)
35. LINE OUT (VIDEO)
36. LINE OUT (AUDIO)
37. H. POSITION CONTROL

■ RGB (AV) Connector



■ RGB (AV) connector recommended input signal

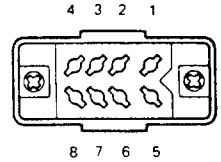




DESIGNATION	PIN NO.
AUDIO OUT (500mVrms Low Impedance)	1 , 3
AUDIO IN (500mVrms High Impedance)	2 , 6
GROUND for AUDIO	4
VIDEO OUT (1Vp-p 75Ω)	19
VIDEO IN (1Vp-p 75Ω)	20
GROUND for VIDEO	17
SLOW SW L(0~2V)-INTERNAL H(9.5~12V)-ACTIVE	8
NO CONNECTION	10, 12, 14

DESIGNATION	PIN NO.
RED IN (700mVp-p, 75Ω)	15
GROUND for RED	13
GREEN IN (700mVp-p, 75Ω)	11
GROUND for GREEN	9
BLUE IN (700mVp-p, 75Ω)	7
GROUND for BLUE	5
FAST SW L(0~0.4V)-INTERNAL H(1~3V)-ACTIVE	16
GROUND for SW	18
GROUND for SCREEN	21

■ VTR Connector



DESIGNATION	PIN NO.
AUDIO IN	1
VIDEO IN	2
GROUND (VIDEO OUT)	3
VIDEO OUT	4
GROUND (AUDIO IN)	5
" (VIDEO IN)	6
" (AUDIO OUT)	7
AUDIO OUT	8

4. HOW TO REMOVE FOR SERVICE

■ REMOVING REAR COVER

Unscrew the eight screws (A) shown in Fig. 4-1 and remove the rear cover.

■ REMOVING MAIN P.C. BOARD

1. Unscrew the two screws (A) shown in Fig. 4-2 and remove the Power P.C. Board.
2. Unscrew the one screw (A) shown in Fig. 4-3.
3. Unscrew the two screws (A) shown in Fig. 4-4.
4. Pull out the printed circuit board along the rail straight toward the rear.

■ WIRE CLAMPING AND TYING BAND

1. Be sure to clamp the wire.
2. Never remove the tying band used for wire clamping. Should it be inadvertently removed, be sure to clamp the wire again, using insulating material.

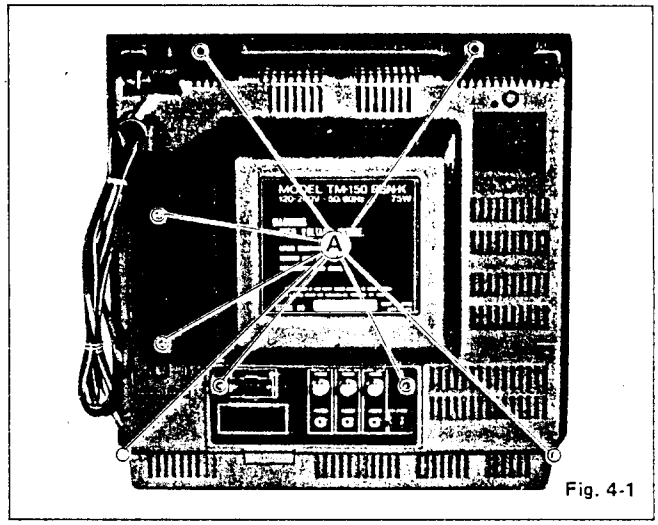


Fig. 4-1

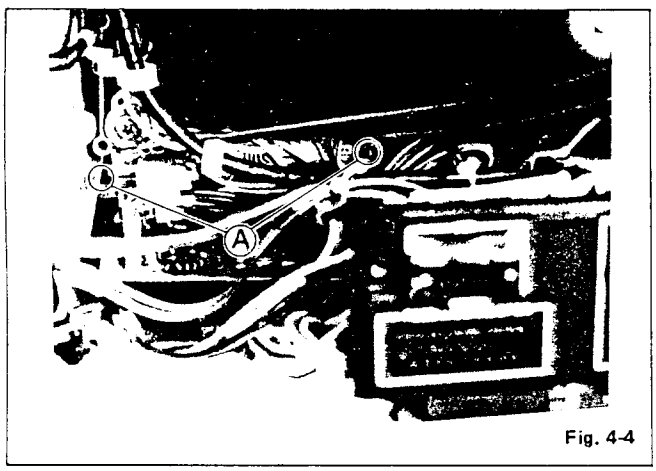


Fig. 4-4

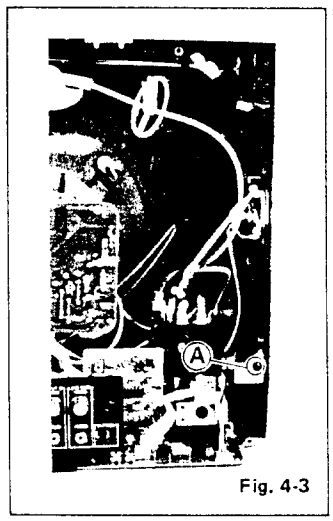


Fig. 4-3

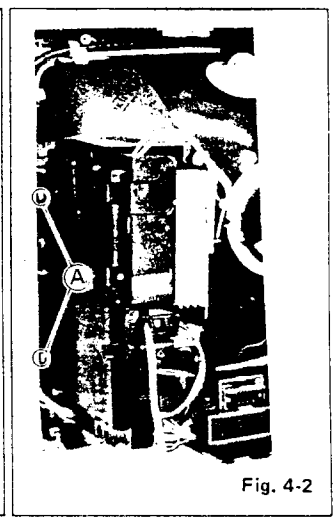


Fig. 4-2

5. SERVICE ADJUSTMENTS

Regarding general or color adjustments, refer to the appended PAL/SECAM (Service adjustments).
As for the test points and respective volume adjusting knob positions, refer to the schematic diagram and the section on "alignment locations" appearing in the same diagram.
As to the following items, observe the respective instructions given herein.

■ POWER SUPPLY

Confirm that DC 110V exists between TP-91 and TP-E (⏚).

■ RGB BRIGHT & CONTRAST

Adjust RGB BRIGHT & CONTRAST VR so that an optimum status of images is obtained.

■ RGB & B CUTOFF

1. Under a "no signal" state, shift the RGB CUTOFF SERVICE switch.
2. Turn the R & B CUTOFF VR fully clockwise.
3. Adjust the RGB BRIGHT VR so that the horizontal line is slightly illuminated.
4. Adjust the R & B CUTOFF VR so that the horizontal line is turned white.
5. Return the RGB CUTOFF SERVICE switch to its original position.

■ SUB "H" POSITION VR

Set the "H" POSITION VR at its center position and adjust the SUB "H" POSITION VR so that the image is positioned at the center.

6. REPLACEMENT PARTS LIST

SX-1805A (MAIN P.B. Ass'y)

SYMBOL NO.	⚠	PART NO.	PART NAME	REMARKS
VARIABLE RESISTOR				
R1161		CEX40202-015	V R	100kΩ B (RGB Contrast)
1168		" -053	V R	5kΩ " (RGB Bright)
1177		" -014	V R	10kΩ " (R Cut Off)
1179		" -014	V R	" " (B Cut Off)
1207		QVAZ001-C004A	V R Block	
1339		CEX40202-013	V R	1kΩ " (DL. Amp.)
1403		CEX40197-014	V R	10kΩ " (V. Height)
1430		" -022	V R	200Ω " (V. Lin.)
1505		CEX40202-014	V R	10kΩ " (H. Hold)
1658		CEX40118-B14M	V R	" " (Volume)
1813		CEX40202-053	V R	5kΩ " (R Cut Off)
1814		" -053	V R	" " (G Cut Off)
1815		" -053	V R	" " (B Cut Off)
1819		" -022	V R	200Ω " (R Drive)
1820		" -022	V R	" " (G Drive)
RESISTOR				
R1501		QRV141F-1502AY	MF R	15kΩ ¼W F
1503		" -1503AY	"	150kΩ ¼W "
1524		QRG019J-181S	OM R	180Ω 1W J
1525		" -471S	"	470Ω " "
1551		" -471S	"	" " "
1553		QRX029J-2R2A	MF R	2.2Ω 2W "
1554		" -3R3A	"	3.3Ω " "
1555		" -3R3A	"	" " "
1562		" -3R3A	"	" " "
1572	⚠	CJ39520-00Q	R Block	
1804		QRG029J-103A	OM R	10kΩ " "
1805		" -103A	"	" " "
1806		" -103A	"	" " "
1862		QRZ0056-332Z	Comp. R.	3.3kΩ ½W K
1864		ERZ-C05ZK271	Z N R	
CAPACITOR				
C1310		QAT3510-340M	V Cap.	
1320		" -340M	"	
1381		QCT25UJ-330	C Cap.	33pF 50V J
1382		" -560	"	56pF " "
1383		" -330	"	33pF " "
1384		" -680	"	68pF " "
1403		QEM61HK-225MZ	E Cap.	2.2μF " K
1404		QFV81HJ-474M	TF Cap.	0.47μF " J
1405		QEM51EK-475M	E Cap.	4.7μF 25V K
1406		QFV81HJ-334M	TF Cap.	0.33μF 50V J
1463		QFV71HJ-104MZ	TF Cap.	0.1μF " K
1508		QFP31HG-302S	PP Cap.	3000pF " G
1551	⚠	QFZ0081-5701S	MPP Cap.	5700pF 1600V ±3%
1553		QETB1VM-228	E Cap.	2200μF 35V M
1556		QEN61HM-474Z	BP E Cap.	0.47μF 50V "
1557		QFV71HJ-104MZ	TF Cap.	0.1μF " J
1558		QFZ0067-434S	MPP Cap.	0.43μF 200V K
1565		QET52CR-336	E Cap.	33μF 160V R
1861		QFH63BK-223M	MM Cap.	0.022μF 1250V K
1863		QET52ER-105	E Cap.	1μF 250V R
1864		QET52ER-475	"	4.7μF " "
1374		QEE51VK-105B	Tan. Cap.	1μF 35V K
1561		QET52ER-475	E Cap.	4.7μF 250V R
1652		QETB1CM-478	"	4700μF 16V M
TRANSFORMER				
T1301		A75196-B	3.58BP Transf.	
1301P		A75325	B.P. Transf.	
1301S		CE40357	Bell Transf.	
1302A		CE40359	Ident Transf.	
1302B		CE40564-001	"	
1303		CE40563-002	DL P Transf.	
1304		CE40358	Descri. Transf.	
1305		"	"	
1552		CE40361-00C	Drive Transf.	

SYMBOL NO.	⚠	PART NO.	PART NAME	REMARK
COIL				
L1201		A76186-12Z	Peaking Coil	12μH
1203		" -56	"	56μH
1301		" -4.7Z	"	4.7μH
1302		" -8.2Z	"	8.2μH
1303		" -8.2Z	"	"
1391		A49468-562	"	5600μH
1501		A04872-90	"	90μH
1551		CE40954-00A	Linearity Coil	
1552		CJ30030-028	Heater Choke	
1553		CE40140-00E	Width Coil	
1801		QQL043K-101	Peaking Coil	100μH
1802		" -101	"	"
1803		" -101	"	"
1804		A76186-47Z	"	47μH
1805		" -47	"	"
1806		" -47	"	"
DIODE				
D1001		MA4110(M)-Y	Zener Diode	
1003		1SS133-Y	Si. Diode	
1004		"	"	
1005		"	"	
1006		"	"	
1007		"	"	
1008		"	"	
1009		MA4120(M)-Y	Zener Diode	
1010		"	"	
1011		"	"	
1012		"	"	
1013		"	"	
1014		"	"	
1015		MA4150-Y	Zener Diode	
1016		1SS133-Y	Si. Diode	
1017		SLR-54VW5	LED	Video B
1018		"	"	Video A
1019		"	"	VTR
1020		"	"	RGB (AV)
1021		"	"	Power
1151		MA4110(M)-Y	Zener Diode	
1152		"	"	
1153		"	"	
1154		1SS133-Y	Si. Diode	
1155		"	"	
1156		"	"	
1157		"	"	
1158		"	"	
1159		"	"	
1160		W06A-Z	"	
1161		1SS133-Y	"	
1162		"	"	
1163		W06A-Z	"	
1164		1SS133-Y	"	
1201		"	"	
1202		"	"	
1204		"	"	
1205		"	"	
1231		SLR-54GG5	LED	NTSC
1232		"	"	SECAM
1233		"	"	P/S Auto
1235		1SS133-Y	Si. Diode	
1237		"	"	
1301		"	"	
1302		"	"	
1303		"	"	
1304		"	"	
1305		"	"	
1306		"	"	
1307		"	"	
1371		"	"	
1372		MA4075(H)-Y	Zener Diode	
1373		1SS133-Y	Si. Diode	

SYMBOL NO.	⚠	PART NO.	PART NAME	REMARKS
D1374		1SS133-Y	Si. Diode	
1376		"	"	
1401		1SR35-100-Z	"	
1402		1SS133-Y	"	
1501		MA4039(H)-Y	Zener Diode	
1503		1SS133-Y	Si. Diode	
1504		"	"	
1506		"	"	
1507		"	"	
1551		V19E-Z	"	
1553		RH-1B-Z	"	
1554		V19E-Z	"	
1555		" -Z	"	
1571		1SR35-100-Z	"	
1572	⚠	MA4068(L)-Y	Zener Diode	
1573		1SS133-Y	Si. Diode	
1574		"	"	
1861		RM2C	"	
1881		1SS133-Y	"	
1882		"	"	
1883		"	"	
TRANSISTOR				
Q1001		2SC1740(Q,R)	Si. Transistor	
1002		2SA1015(Y,GR)	"	
1003		2SC1740(Q,R)	"	
1004		"	"	
1005		"	"	
1006		"	"	
1010		2SA1015(Y,GR)	"	
1011		"	"	
1012		2SC1740(Q,R)	"	
1013		"	"	
1014		"	"	
1015		"	"	
1016		2SA1015(Y,GR)	"	
1017		2SC1740(Q,R)	"	
1018		"	"	
1019		2SC1959(Y)	"	
1151		2SC1740(Q,R)	"	
1152		"	"	
1153		"	"	
1154		2SA1015(Y,GR)	"	
1155		2SC1740(Q,R)-Y	"	
1201		2SC1740(Q,R)-L	"	
1203		2SA1015(Y,GR)-Y	"	
1204		"	"	
1207		2SC1740(Q,R)-Y	"	
1208		"	"	
1209		"	"	

SYMBOL NO.	⚠	PART NO.	PART NAME	REMARKS
Q1301		2SC1740(Q,R)-Y	Si. Transistor	
1304		"	"	
1305		"	"	
1306		"	"	
1307		"	"	
1371		2SC1815(Y,GR)L	"	
1401		2SC1740(Q,R)-Y	"	
1501		2SA1015(Y,GR)L	"	
1502		2SC1627A	"	
1503		2SC1740(Q,R)-Y	"	
1504		2SA1015(Y,GR)L	"	
1505		2SC1740(Q,R)-Y	"	
1551	⚠	2SD1554	"	
1801		2SC1360	"	
1802		"	"	
1803		"	"	
1804		2SC2068	"	
1805		"	"	
1806		"	"	
IC				
IC 1001		TC4066BP	I.C.	
1002		"	"	
1003		LA7016	"	
1004		"	"	
1151		AN6551	"	
1152		AN5352	"	
1201		TA7698AP	"	
1371		M51397AP	"	
1401		AN5515	"	
1651		AN5265	"	
OTHERS				
	⚠	CE40228-00D	CRT Socket	
DL1201		CE40267-001	Delay Line	
1301		A76350	1H Delay Line	or CE40728-001
FR1529	⚠	QRZ0054-100M	F.R	10Ω ¼W J
1571	⚠	" -4R7M	"	4.7Ω " "
1831	⚠	QRH127J-470M	"	47Ω ½W "
F1551	⚠	QMF51E2-1R25S	Fuse	1.25A
J4601		CEX40201-002	Jack	Earphone
S1101		QST3821-C01	Push Switch	Service SW
1105		QSS1A22-C01	Slide Switch	RGB Service SW
1151		QSL4A13-C02	Lever Switch	Service SW
1401		" -C02	"	V. Center SW
X1301		CE40668-001	Crystal	
1302		CE40749-001	"	

SX-9210A (POWER P.B. Ass'y)

SYMBOL NO.	△	PART NO.	PART NAME	REMARKS
VARIABLE RESISTOR				
R9016		CEX40202-054	V R	50kΩ B (B1 Adj.)
RESISTOR				
R9002		QRF153K-5R6	UNF R	5.6Ω 15W K
9003		QRM055K-1R0	MP R	1Ω 5W "
9007		QRF208K-181	UNF R	180Ω 20W "
9015	△	QRZ0057-685	C R	6.8MΩ 1W J
9017		QRG039J-220	OM R	22Ω 3W "
CAPACITOR				
C9001	△	QFZ9017-473M	MM Cap.	0.047μF AC250V M
9004	△	" -473M	"	" " "
9005		QCZ9011-472M	C Cap.	4700pF AC400V M
9006		" -472M	"	" " "
9007		" -472M	"	" " "
9008		QEZ0084-227M	E Cap.	220μF 400V M
9010		QCZ0115-152A	C Cap.	1500pF 2kV K
9014		QFV81HJ-124M	TF Cap.	0.12μF 50V J
9015		QCZ0115-151A	C Cap.	150pF 2kV K
9016		QEN51HM-224	BP E Cap.	0.22μF 50V M
9017		QEZ0090-477M	E Cap.	470μF 160V A
9019	△	QCZ9012-222M	C Cap.	2200pF AC400V M
9021		QEZ0091-107M	E Cap.	100μF 180V H
9002,3	△	QCZ9012-102M	C Cap.	1000pF AC400V M
9013,8		QEM51CK-107M	E Cap.	100μF 16V K
9022		" -107M	"	" " "
TRANSFORMER				
T9001	△	CE40839-00A	SW Transf.	
COIL				
L9001		CJ39509-015	Heter Choke	
9002		A76186-68	Peaking Coil	68μH

SYMBOL NO.	△	PART NO.	PART NAME	REMARKS
DIODE				
D9001		TVR4N	Si. Diode	
9002		"	"	
9003		"	"	
9004		"	"	
9005		RGP10J	"	
9007		RU4B	"	
9008		RGP10J	"	
9009		RU2-LFA1	"	
9010		RD12E(B)	Zener Diode	
IC				
IC 9001		STK7358	I.C.	
OTHERS				
		A27425-3V0	Power Cord Clamp	
	△	QMP5138-200R	Power Cord	
FR9011	△	QRZ0054-100M	F R	10Ω ½W J
9013	△	QRH127J-272M	"	2.7kΩ ½W "
9014	△	QRZ0054-2R2M	"	2.2Ω ¼W "
9019	△	" -471M	"	470Ω " "
F9001	△	QMF51E2-3R15S	Fuse	3.15A
LF 9001,2	△	CE40719-00A	Line Filter	
TH9001	△	A76038	W Posistor	

SX-4013A (H POSITION CONTROL P.B. Ass'y)

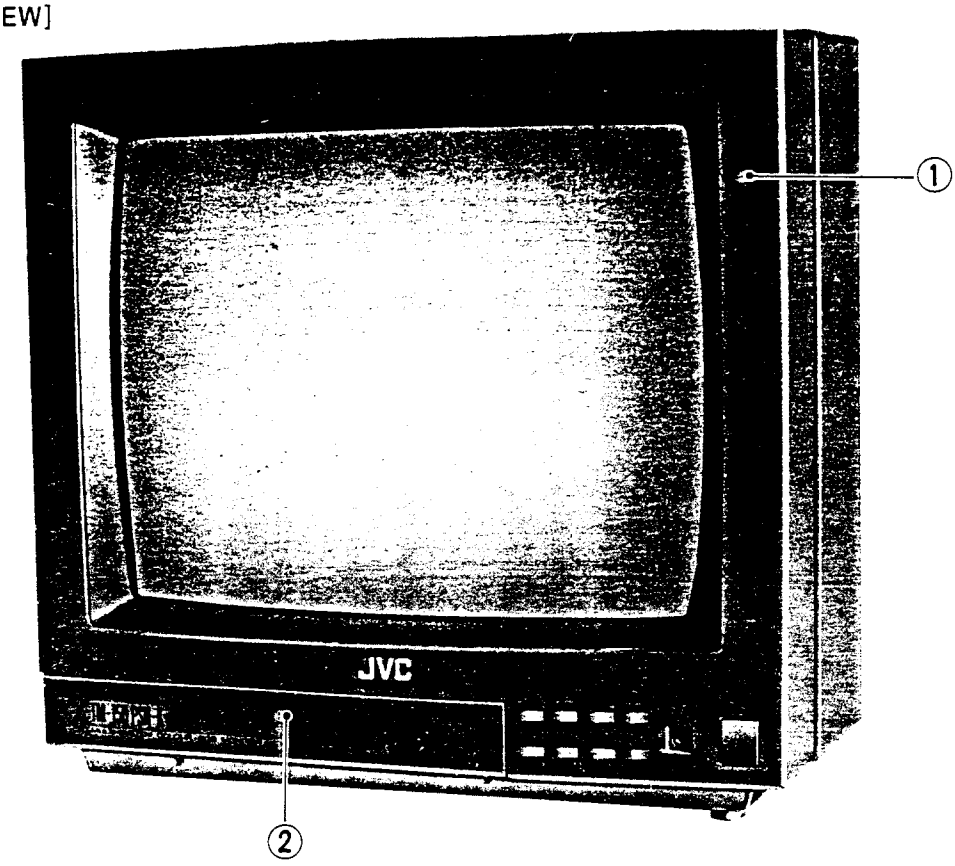
SYMBOL NO.	△	PART NO.	PART NAME	REMARKS
VARIABLE RESISTOR				
R4007		CEX40402-024	V R	20kΩ B (Sub H Pos)
4008		CEX40206-B14	"	10kΩ B (H Position)
CAPACITOR				
C4003		QFP31HG-102S	PP Cap.	1000pF 50V G
4006		" -102S	"	" " "
DIODE				
D4001		RD11E(B)	Zener Diode	
4002		1SS133-Y	Si. Diode	
4003		"	"	

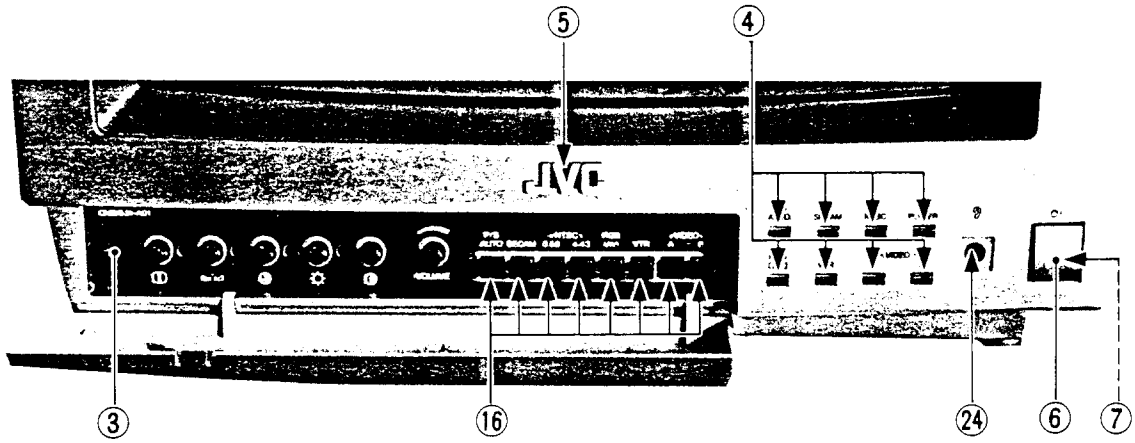
SYMBOL NO.	△	PART NO.	PART NAME	REMARKS
D4004		1SS133-Y	Si. Diode	
4005		"	"	
4006		"	"	
TRANSISTOR				
Q4001		2SC1740(Q,R)	Si. Transistor	
4002		2SA1015(Y,GR)	"	
IC				
IC 4001		TC4011BP	I.C.	

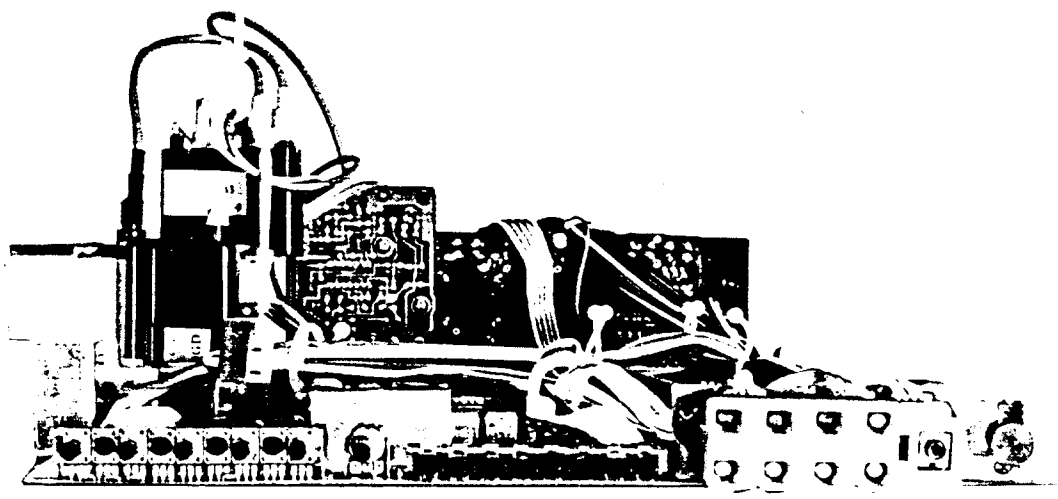
CHASSIS AND CABINET PARTS LIST

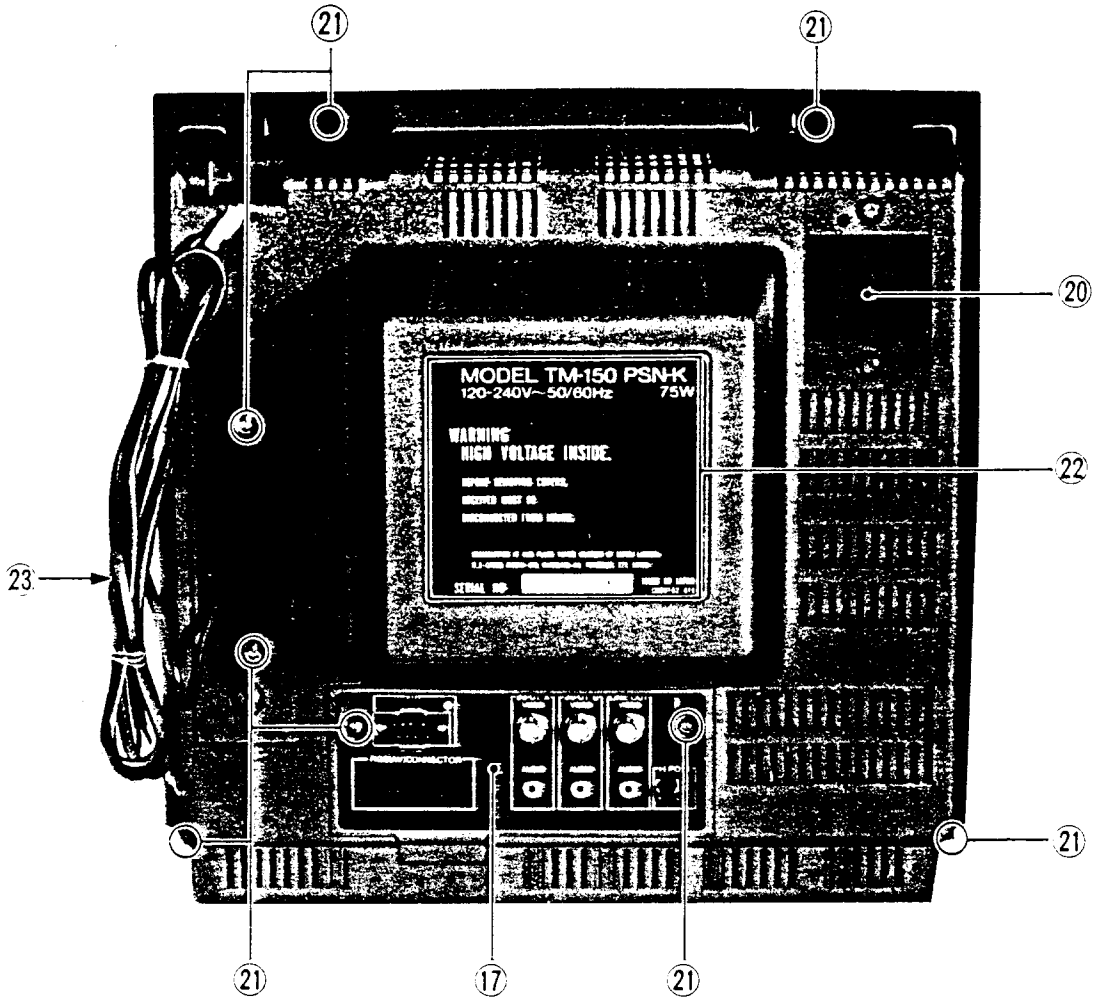
VIEW NO.	SYMBOL NO.	△	PART NO.	PART NAME	REMARK
1			CM10475-00B	Front Cabinet Ass'y	
2			CM20718-002	Door	Within Front Cabinet Ass'y
3			CM31531-001	Operation Sheet	"
4			CM43059-001	LED Holder	"
5			CM43094-001	JVC Mark	"
6			CM42998-001	Power Knob	"
7			CM30861-023	Spring	"
8	SP01		HSA0899-01D	Speaker	
9	V01	△	A36JFT60X-AC	Picture Tube	
10	L01	△	CJ30013-00D	Degaussing Coil	
11	DY01	△	CE20067-00B	Def. Yoke Ass'y	
12			CH41434-00B	Braided Ass'y	With Spring
13			CE40305-00B	PC Magnet	
14			CE40764-00A	Wedge Ass'y	(x3)
15	T1551	△	CJ26421-00C	HV Transf.	
16			CM41678-B01	Push Knob	(x8)
17			CM20719-00A	Terminal Ass'y	
18	SW01	△	QSP4D21-C04	Power Switch	
19			A46445	Focus Cover	(x2)
20			CM10419-002-M0	Rear Cover	
21			GBSA4016N	Tap Screw	(x8)
22			CM20162-B16(R)	Rating Label	
23		△	QMP5138-200R	Power Cord	
24			CEX40201-002	Earphone Jack	
25			A27425-3V0	Cord Clamp	

[EXPLODED VIEW]








21
21
20
MODEL TM-150 PSN-K
120-240V~ 50/60Hz 75W
WARNING
HIGH VOLTAGE INSIDE.
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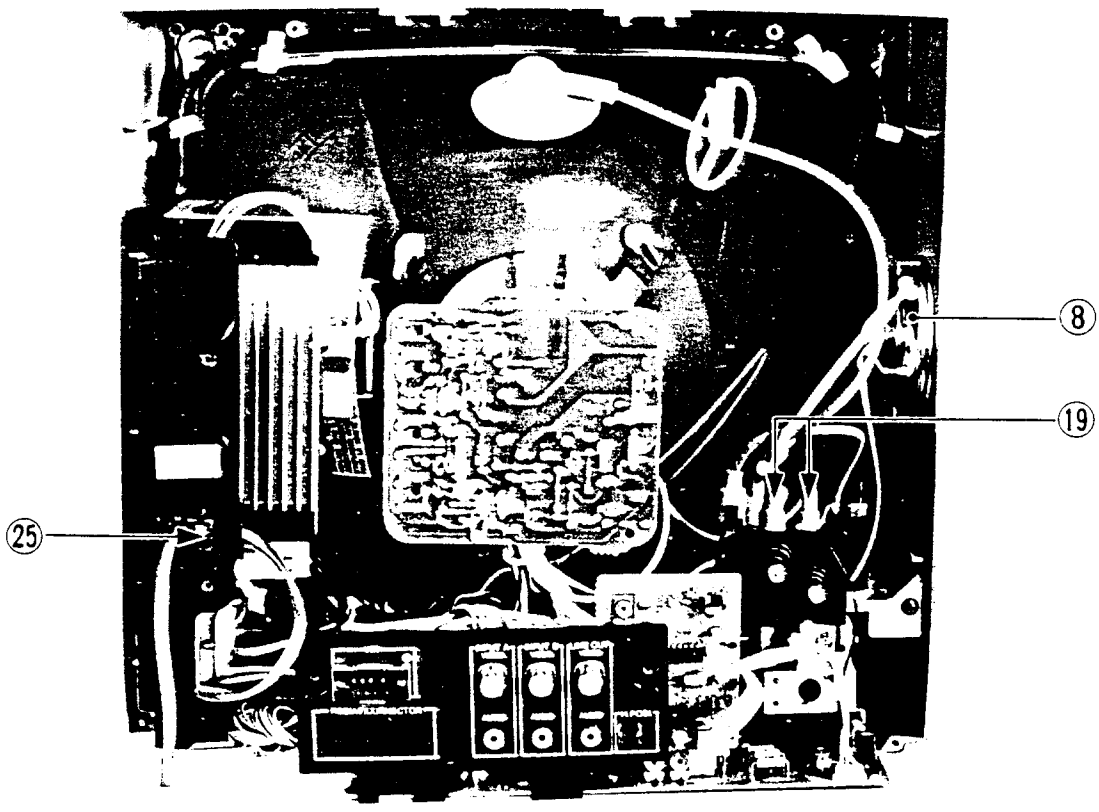
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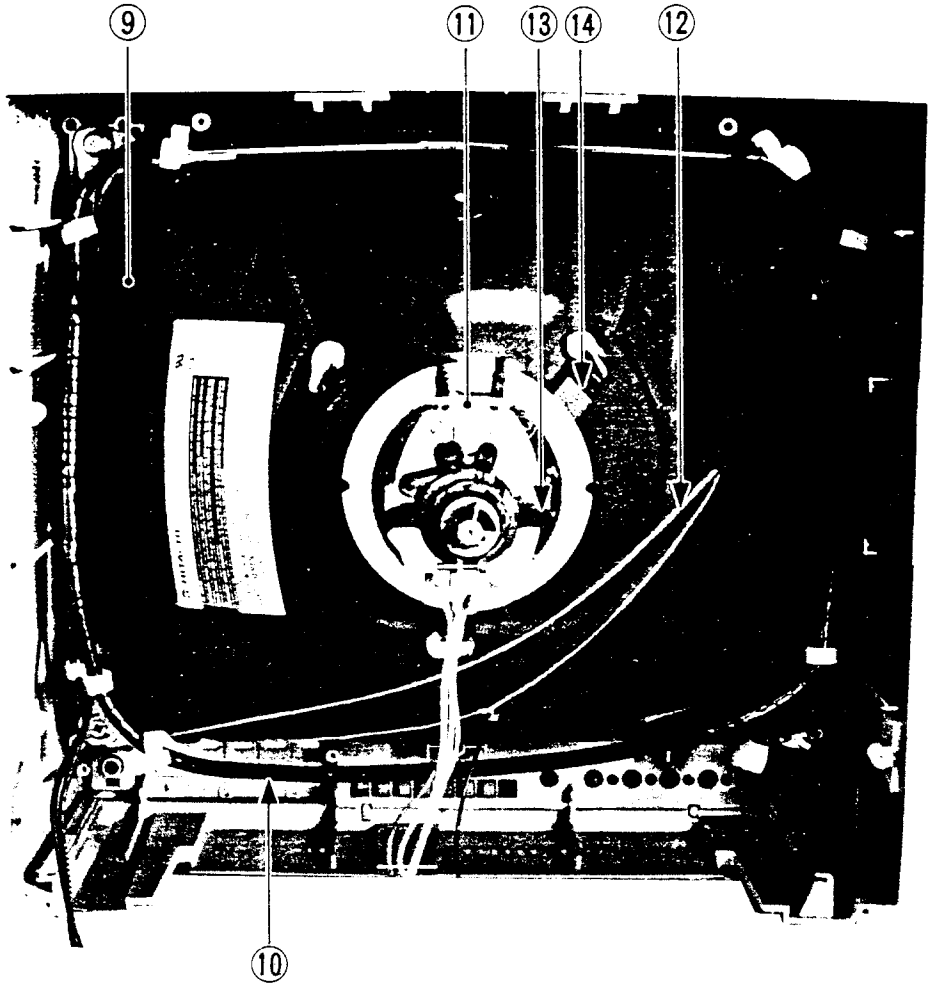
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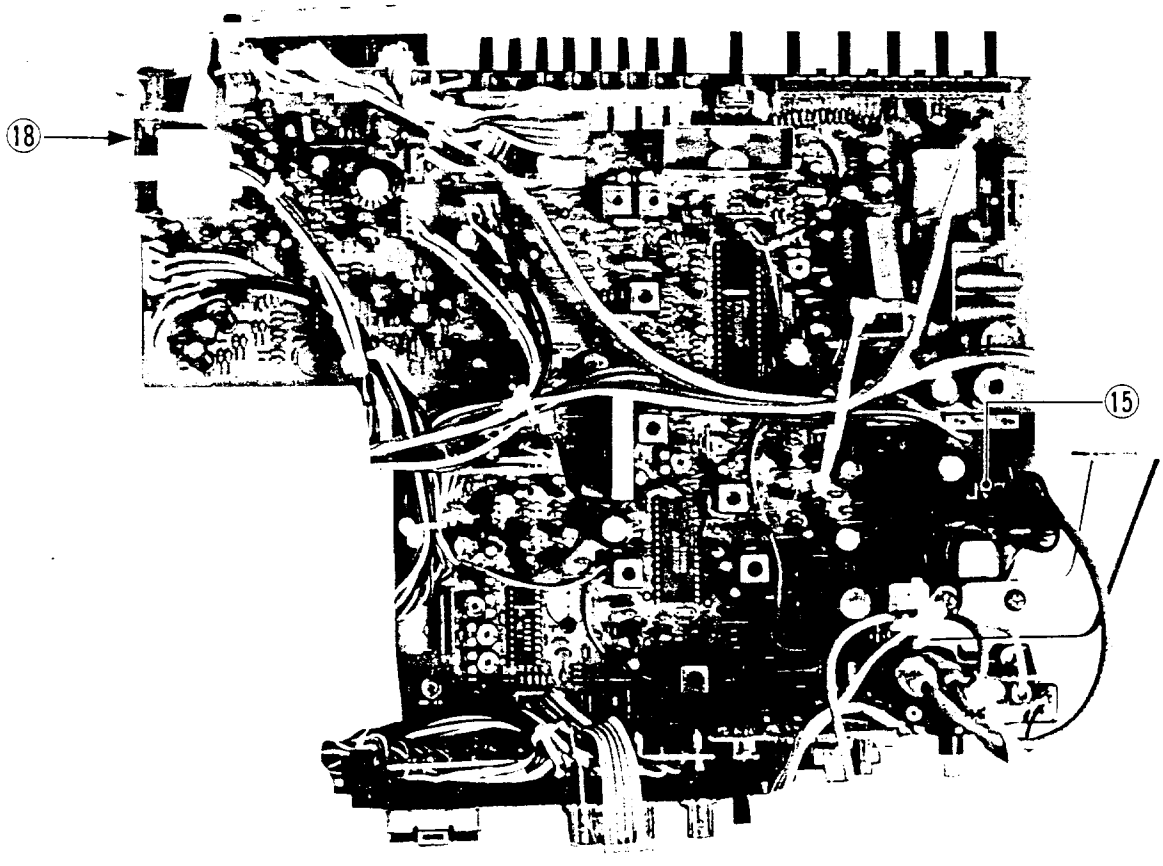
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⑮

SAFETY PRECAUTION

1. The design of this product contains special hardware, many circuits and components specially for safety purposes.
   For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
2. Alterations of the design or circuitry of receiver should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in television sets have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of Service manual. **Electrical components having such features are identified by shading on the schematics and by (⚠) on the parts list in Service manual.** The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list in Service manual may create shock, fire, or other hazards.
4. The chassis and any sub-chassis contained in this product are connected to one side of the AC power line. An isolation transformer of adequate capacity should be inserted between the product and the AC power supply point while performing any service on this product when the HOT chassis is exposed.
5. If any repair has been made to the chassis, it is recommended that the B_1 setting should be checked or adjusted (See ADJUSTMENT OF B_1 POWER SUPPLY).
6. The high voltage applied to the picture tube must conform with that specified in Service manual. Excessive high voltage can cause an increase in X-Ray emission, arcing and possible component damage, therefore operation under excessive high voltage conditions should be kept to a minimum, or should be prevented. If severe arcing occurs, remove the AC power immediately and determine the cause by visual inspection (incorrect installation, cracked or melted high voltage harness, poor soldering, etc.). To maintain the proper minimum level of soft X-Ray emission, components in the high voltage circuitry including the picture tube must be the exact replacements or alternatives approved by the manufacturer of the complete product.
7. Do not check high voltage by drawing an arc. Use a high voltage meter or a high voltage probe with a VTVM. Discharge the picture tube before attempting meter connection, by connecting a clip lead to the ground frame and connecting the other end of the lead through a 10kΩ 2W resistor to the anode button.
8. When service is required, observe the original lead dress. Extra precaution should be given to assure correct lead dress in the high voltage circuit area. Where a short circuit has occurred, those components that indicate evidence of overheating should be replaced. Always use the manufacturer's replacement components.
9. ISOLATION CHECK
   (SAFETY FOR ELECTRICAL SHOCK HAZARD)
   After re-assembling the product, always perform an isolation check on the exposed metal parts of the cabinet (antenna terminals, channel selector knobs, metal cabinet, screwheads, earphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.
   (1) DIELECTRIC STRENGTH TEST
   The isolation between the AC primary circuit and all metal parts exposed to the user, particularly any exposed metal part having a return path to the chassis should withstand a voltage of 3,000V AC (r.m.s.) for a period of one second.
   (. . . . . withstand a voltage of 1,100V AC (r.m.s.) to an appliance rated up to 120V, and 3,000V AC (r.m.s.) to an appliance rated 200V or more, for a period of one second.)
   This method of test requires a test equipment not generally found in the service trade.
   (2) LEAKAGE CURRENT CHECK
   Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.) Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground (water pipe, etc.). Any leakage current must not exceed 0.5mA AC (r.m.s.).
   • ALTERNATE CHECK METHOD
   Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Use an AC voltmeter having 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1500Ω 10W resistor paralleled by a 0.15μF AC-type capacitor between an exposed metal part and a known good earth ground (water pipe, etc.).
   Measure the AC voltage across the resistor with the AC voltmeter.
   Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.35V AC (r.m.s.). This corresponds to 0.5mA AC (r.m.s.).

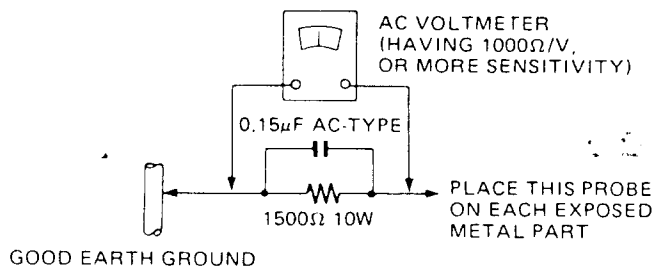


Fig. A

SERVICE ADJUSTMENTS

1) PICTURE TUBE

The picture tube is a precision in-line gun type. For this picture tube, dynamic convergence is carried out by a precision deflection yoke which eliminated the use of convergence yoke and convergence circuit. The adjustment of picture tube is therefore made easier as only the adjustment of static convergence by using a magnetic is enough. The deflection yoke and purity/convergency magnets assembly has been set at the factory and requires no field adjustments.

However, should the assembly be accidentally jarred or tampered with, some or all adjustments may be necessary.

2) COLOUR PURITY & VERTICAL CENTRE

Loosen yoke retaining clamp (Fig. B-1). With a sharp knife cut between the picture tube and the bond. Remove wedges completely and clean off dried adhesive from the picture tube. PAINT is used to lock the tabs of the purity/convergence magnet assembly in place (Fig. B-1). The paint must be removed with the end of a screwdriver before any adjustments are attempted.

1. Select no signal UHF channel.
2. Let the purity tabs come in line horizontally as is shown in Fig. B-3. A long tab should be in the same direction as the other short tab.
3. Move the yoke slowly to backward.
4. Turn the green cut-off control to maximum and the red and blue cut-off controls to minimum. Then adjust the screen control so that the green band can be seen best. (Fig. B-2, 4).
5. Rotate the two tabs in the opposite directions and with them kept at an angle, together in either direction so that the green band is centered on the picture tube.
6. Check the vertical center position by displaying a horizontal line. Unless correct, bring it to the center by rotating the two tabs, kept at an angle, together in either direction. (Fig. B-5, 6).
7. Repeat steps 5 and 6 alternately until the green band and the vertical centre come to the centre.
8. Move the yoke slowly towards the bell of the tube so that the whole surface of the picture tube is filled with a green pure raster.
9. Turning red or blue cut-off control to maximum and green cut-off control to minimum, make sure of a red or blue pure raster.
10. Secure yoke retaining clamp (do not install wedges at this time).

As to models equipped with a magnet locking ring, secure it and keep six magnets from moving even if it is touched slightly.

NOTE:

The locations of adjustment parts in Fig. B-1, B-2 and B-6 are given for a sample. They differ according to a set. In such a case, use them while checking it with the set to repair. Use the "Alignment Location" in the Schematic Diagram together.

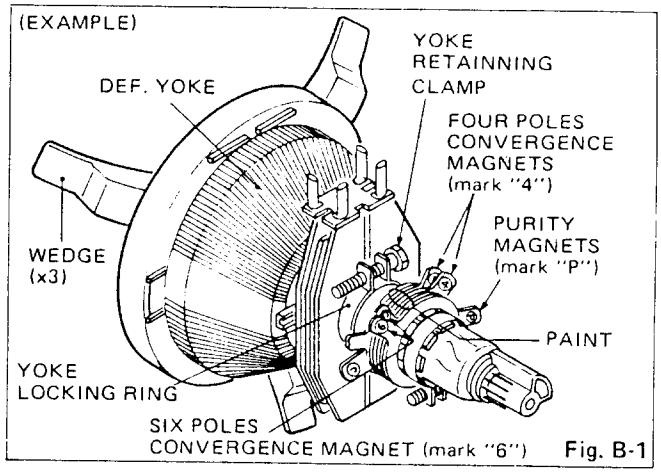


Fig. B-1

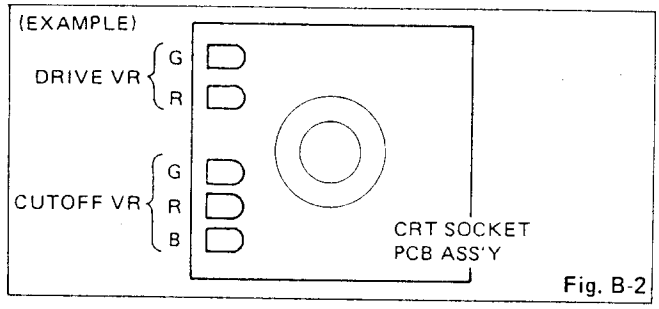


Fig. B-2

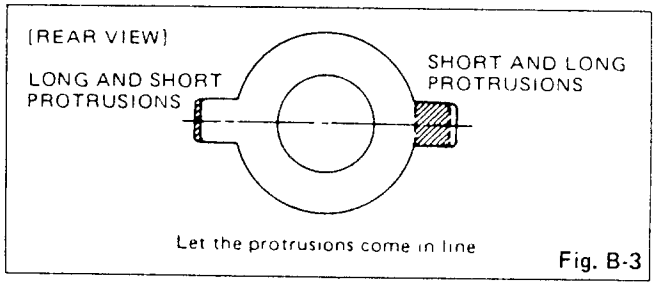


Fig. B-3

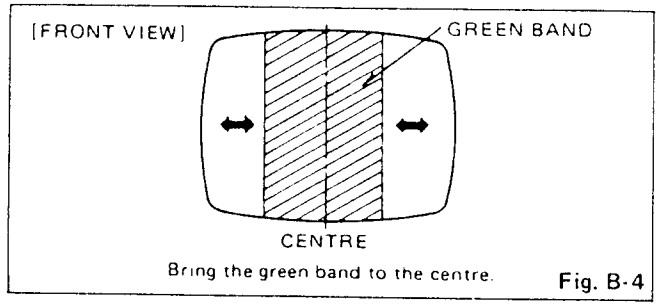
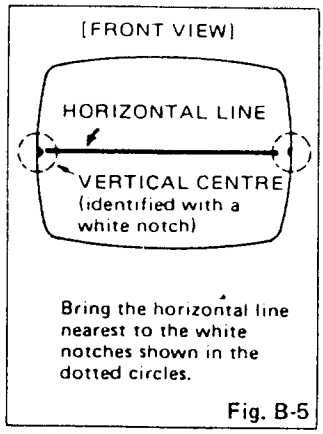


Fig. B-4


(FRONT VIEW)
HORIZONTAL LINE
VERTICAL CENTRE (identified with a white notch)
Bring the horizontal line nearest to the white notches shown in the dotted circles.
Fig. B-5

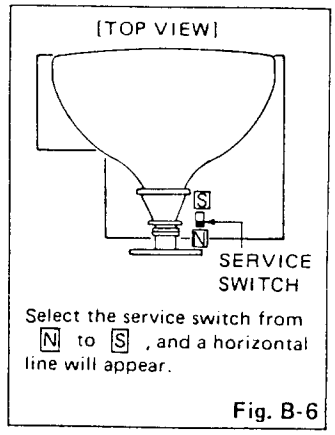


Fig. B-6

3) STATIC CONVERGENCE & DYNAMIC CONVERGENCE

1. Connect a crosshatch generator to the antenna terminals and adjust BRIGHTNESS and CONTRAST control for a distinct pattern.
2. Adjust the convergence around the edges of the picture tube by tilting the yoke, up-down and left-right, and temporarily install one wedge at the top of the yoke. (Fig. B-9, 10, 11).
3. Rotate the front pair of tabs as a unit to minimize the separation of the red and blue lines around the center of the screen. Variation of the angle between the tabs adjust the convergence of red and blue. (Fig. B-7)
4. Rotate the rear pair of tabs as a unit to minimize the separation of the magenta (R/B) and green lines. (Fig. B-8)
5. Adjust the spacing of the rear tabs to converge the magenta and green lines.
6. Apply paint to fix 6 magnets.
7. Remove the wedge installed temporarily on the yoke.
8. Tilting the angle of the yoke up, down and sideways, and adjust the yoke so as to obtain the circumference convergence. (Fig. B-10, 11)
9. Insert three wedges to the position as shown in Fig. B-12 to obtain the best circumference convergence.
10. Wedge has a backing of both faces adhesive tape. Therefore, tearing off one side of adhesive tape, and fix the wedges.
11. White balance adjustment (Black & White tracking) can now be performed.

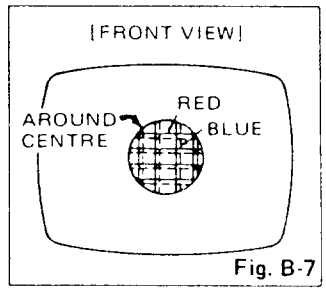


Fig. B-7

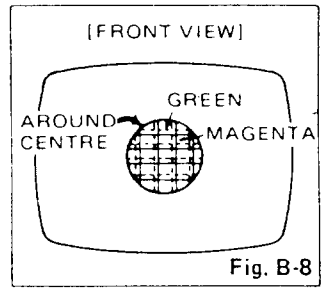


Fig. B-8

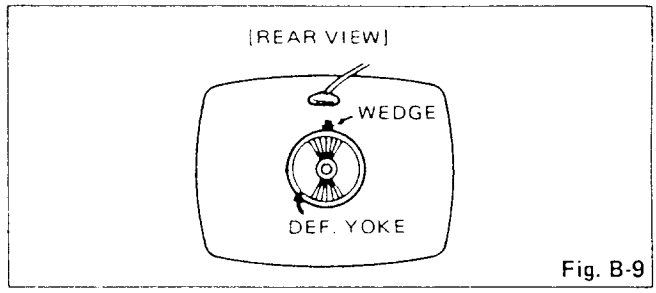
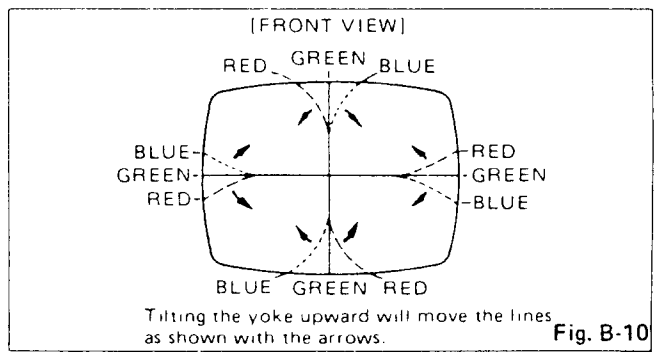
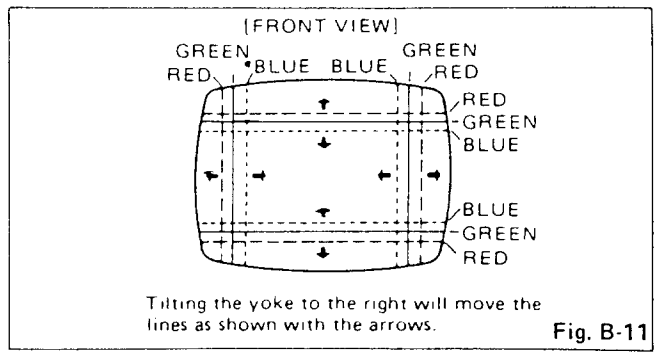


Fig. B-9



Tilting the yoke upward will move the lines as shown with the arrows.
Fig. B-10



Tilting the yoke to the right will move the lines as shown with the arrows.
Fig. B-11

4) WHITE BALANCE ADJUSTMENT (Black and White Tracking)

1. Display a monochrome pattern.
2. Set the red and green drive controls for their mechanical center (Fig. B-2).
3. Turn the red, green and blue cut off controls and the screen control fully counterclockwise.
4. Display a horizontal line. (Refer to "HORIZONTAL LINE" or Fig. B-6)
5. Turn screen control slowly clockwise until a very faint horizontal line appears.
6. Turn the cut off control of the color which has appeared first, clockwise by about 10° and then adjust the screen control again so that the color may shine faintly.
7. Turn the other color cut off controls slowly clockwise until a reasonable white line appears.
8. Return the monochrome pattern. (Refer to "HORIZONTAL LINE" or Fig. B-6)
9. Adjust the red and green drive controls for best white highlights.

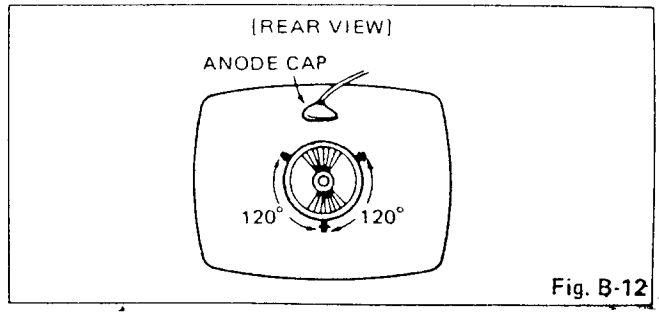


Fig. B-12

* Some item of adjustment method is not applicable to some model. In such a case omit the item.
* Use the undermentioned adjustment methods after repair or for readjustment of misadjustment.
* Adjustments except the following description are mentioned in the service manual text.
* The locations of the under mentioned adjustment parts are described in the "Alignment Location" of the Schematic Diagram.
* Test point pins are not indicated in the printed circuit board, but in the Schematic Diagram under certain circumstances. In this case, look for test points, which are indicated in the Schematic Diagram, on the printed circuit board; and use it for test points even if there are not test point pins.

POWER SUPPLY

* The earth is hot or cold.
  Use a suitable earth by checking whether hot or cold in each schematic diagram.

■ DC 12V VOLTAGE

Adjust the 12V ADJ. VR to obtain DC 12V between TP-99 and earth.

■ B_1 VOLTAGE

Confirm that B_1 voltage exists between TP-91 and earth.

NOISE (RF A.G.C. Delay)

This control is set at the factory and rarely requires any adjustment. If a snowy picture appears on a medium to weak station, adjust the NOISE VR.

1. Turn NOISE VR fully counter-clockwise (or clockwise), maximum noise in picture.
2. Slowly turn NOISE VR clockwise (or counter-clockwise) until snow or noise in picture just disappears.

   Note: Check operation on strong channels. If overloading occurs (bending, poor colour, loss of colour sync. etc.) make compromise adjustment.

FOCUS

Adjust FOCUS VR for best overall definition and picture detail at normal brightness and contrast.

VERTICAL HEIGHT

Adjust the V. HEIGHT VR to obtain the optimum size of vertical height.

VERTICAL CENTER

Centering is completed at the factory, although it may become distorted when CRT is changed.
In such case, adjusting the VERTICAL CENTER moves the picture up or down.

VERTICAL LINEARITY & HEIGHT

1. Set a colour bar generator to crosshatch or a pattern with which symmetry can be checked.
2. Reduce the vertical size with the VERTICAL HEIGHT VR.
3. Adjust the vertical symmetry with the VERTICAL LINEARITY VR.
4. Readjust the VERTICAL HEIGHT VR so that the picture extends to normal size.

HORIZONTAL OSCILLATOR

1. Set the H. HOLD VR to the mechanical centre position.
2. Short TP-33 and ⏚ with a jump wire.
3. Adjust H. HOLD VR until picture is in view and locks or drift slowly back and forth.
4. Remove the jump wire.
5. Make sure that the set maintains horizontal sync. When channels are switched.

SUB BRIGHTNESS

1. Set the BRIGHT and CONTRAST VR knobs to central position respectively.
2. Adjust the SUB BRIGHT VR to obtain the optimum brightness.

CHROMA CIRCUIT

■ PAL (With SECAM circuit)

1. Receive a PAL colour bar signal.
2. Connect an oscilloscope to TP-43B.
3. Adjust IDENT TRANSF. (T302A) for the maximize waveform (Burst signal).
4. Set the oscilloscope at the X-Y mode and connect channel 1 (X axis) to TP-49 and channel 2 (Y axis) to TP-48 respectively.
5. Short TP-46A and TP-46B with a jump wire.
6. Supply bias to TP-45 through 10 kΩ resistor from 12V DC.
7. Adjust DL AMP. VR so that the figure becomes (B) from (A).
8. Adjust DL P. TRNASF. (T303) so that the figure becomes (C) from (B).
9. While observing the screen, adjust colour synchronization by manipulating the C320 (4.43 MHz OSC).

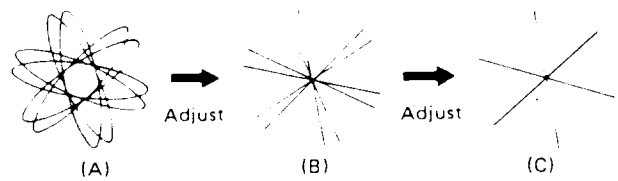


Fig. B-13

■ SECAM

1. Receive a SECAM colour bar signal.
2. Connect an oscilloscope to TP-40.
3. Adjust BELL TRANSF. (T301S) for flat waveform as shown in Fig. B-14-(B).
4. Connect a digital voltmeter to TP-46S.
5. Adjust DENT TRANSF. (T302B) for the maximum DC voltage.
6. Adjust DISCRI. TRANSF. (T304) and DISCRI TRANSF. (T305) until colours are eliminated from the black-and-white sections of the colour bars.

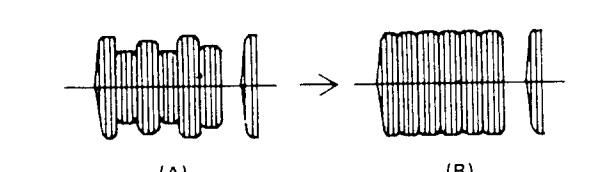


Fig. B-14

■ NTSC (COLOUR SYNCHRONIZATION)

1. Receive a NTSC (3.58 MHz) colour bar signal.
2. Short TP-46A and TP-46B with a jump wire.
3. Supply bias to TP-45 through 10kΩ resistor from 12V DC.
4. While observing the screen, adjust colour synchronization by manipulating the C310 (3.58 MHz OSC).

SUB TINT (NTSC)

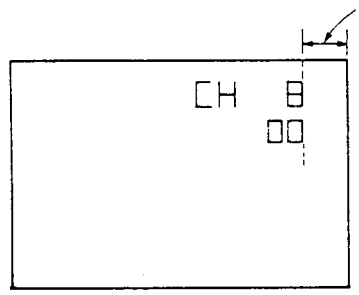
1. Receive a NTSC colour signal (4.43 MHz/3.58 MHz).
2. Set the TINT VR knob to the central position.
3. Adjust the SUB TINT VR (4.43 MHz/3.58 MHz) until natural tint is obtained.

P/N SUB COLOUR

1. Receive a SECAM colour signal.
2. Adjust the COLOUR VR knob to obtain natural colour density.
3. Receive a PAL colour signal.
4. Adjust the P/N SUB COLOUR VR until natural colour density is obtained.

ON SCREEN

1. Display characters on the screen.
2. Adjust the character positions as shown in the figure by manipulating the CLK VR (on screen adjustment VR).
3. Confirm that characters on the screen are positioned at approximately the same locations on other channels.



Size	Position (about)
14"	30 mm
20"	50 mm
26"	70 mm

Fig. B-15

HORIZONTAL WIDTH

Adjust H. WIDTH control coil by turning it with a hexagonal adjusting bar only if RIGHT and LEFT sides of pictures can't be seen.

CHROMA CIRCUIT

■ **PAL (Without SECAM circuit)**

1. Receive a PAL colour bar signal.
2. Connect an oscilloscope to TP-43B.
3. Adjust IDENT TRANSF. (T302A) for the maximize waveform (Burst signal).
4. Set the oscilloscope at the X-Y mode and connect channel 1 (X axis) to pin (22) of IC201 and channel 2 (Y axis) to pin (21) of IC201 respectively.
5. Short TP-46A and TP-46B with a jump wire.
6. Supply bias to TP-45 through 10kΩ resistor from 12V DC.
7. Adjust DL AMP. VR (R339) so that the figure becomes (B) from (A).
8. Adjust DL P. TRANSF. (T303) so that the figure becomes (C) from (B).
9. While observing the screen, adjust colour synchronization by manipulating the C320 (4.43 MHz OSC).

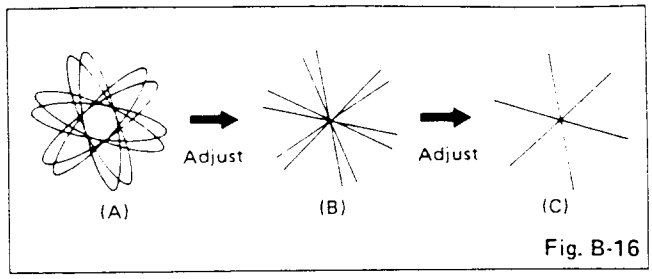


Fig. B-16

HORIZONTAL LINE

- CUT-OFF SERVICE SWITCH
  Select the CUT-OFF SERVICE SWITCH from N to S and a HORIZONTAL LINE will appear.
  When returning a monochrome pattern select the CUT-OFF SERVICE SWITCH from S to N and a monochrome pattern will appear.
- CUT-OFF SERVICE TIP
  Reconnect the CUT-OFF SERVICE TIP from N to S and a HORIZONTAL LINE will appear.
  When returning a monochrome pattern reconnect the CUT-OFF SERVICE TIP from S to N and a monochrome pattern will appear.

■ Adjustment of V. IF CIRCUIT

1. Connect a colour bar generator to antenna terminal. (When the signal is too strong, use the attenuator.)
2. Connect DC voltmeter (or tester) between AGC terminal of E. Tuner and earth.
3. Rotate "Noise" VR so that RF. AGC voltage becomes DC 4.5 V ± 1 V.
4. Adjust CW transformer so that the indicator becomes to minimum.
5. Confirm the adjustment of "Noise" VR.

■ Adjustment of RF. AFC

1. Connect a colour bar generator to antenna terminal.
2. Adjust AFC TRANSF. so that the voltage of TP-16 becomes DC 7.0 V ± 0.5 V.
   (Conform to swing between about 9V and 4V previously.)

■ Adjustment of S. IF CIRCUIT

1. Tune in a local station preferably a program with the continuous audio.
2. Adjust TAKE OFF TRANSF. (T601) and S. IF TRANSF. (T602) so that the sound becomes to maximum without distortion.

REPLACEMENT PARTS LIST INRORMATION

PRODUCT SAFETY NOTE
Components identified by the ⚠ symbol in the PARTS LIST and the shaded areas on the Schematic have special characteristics important to safety. Before replacing any of these components, read carefully the **SAFETY PRECAUTION** on Page A(E) of this Service Manual. DO NOT degrade the safety of the set through improper servicing.

1. ABBREVIATED WORDS OF RESISTORS AND CAPACITORS

RESISTORS

C R	:	Carbon Resistor
Comp. R	:	Composition Resistor
OM R	:	Oxide Metal Film Resistor
V R	:	Variable Resistor
MF R	:	Metal Film Resistor
F R	:	Fusible Resistor
UNF R	:	Unflammable Resistor

CAPACITORS

C Cap.	:	Ceramic Capacitor
M Cap.	:	Mylar Capacitor
E Cap.	:	Electrolytic Capacitor
BP E Cap.	:	Bi-Polar (or Non-Polar) Electrolytic Capacitor
MM Cap.	:	Metalized Mylar Capacitor
PP Cap.	:	Polypropylene Capacitor
MPP Cap.	:	Metalized PP Capacitor
PS Cap.	:	Polystyrol Capacitor
Tan. Cap.	:	Tantalum Capacitor

2. FOLLOWING RESISTORS AND CAPACITORS OF STANDARD ELECTRICAL COMPONENTS ARE OMITTED FROM THIS PARTS LIST. EACH PART NUMBER OF THESE STANDARD REPLACEMENT COMPONENTS IS DEFINED AS FOLLOWS.

Carbon Resistor (C R): Lead form (—⊂⊃—)

Rating	Part No.
¼W	QRD141J-□□□ (CR; ¼W; Tolerance; Lead form; Constant term)
½W	QRD121J-□□□
⅛W	QRD161J-□□□

Composition Resistor (Comp. R): Lead form (—▭—)

Rating	Part No.
½W	QRC121K-□□□ (Comp. R; ½W; Tolerance; Lead form; Constant term)

Mylar Capacitor (M Cap.): Lead form ( )

Withstand Voltage	Part No.
50V	QFM41HK-□□□ (M Cap.; Lead form; 50V; Tolerance; Constant term)
100V	QFM42AK-□□□
200V	QFM42DM-□□□

Ceramic Capacitor (C Cap.): Lead form ( )

Withstand Voltage	Parts No.
50V	QCS11HJ-□□□ (C Cap.; Lead form; 50V; Tolerance; Constant term)
500V	QCS12HJ-□□□

Electrolytic Capacitor (E Cap.): Lead form ( )

Withstand Voltage	Parts No.
6.3V	QET40JR-□□□ (E Cap.; Lead form; 6.3V; Tolerance; Constant term)
10V	QET41AR-□□□
16V	QET41CR-□□□
25V	QET41ER-□□□
50V	QET41HR-□□□

3. DECODING OF TOLERANCE AND CONSTANT TERM

TOLERANCE

J: ±5% K: ±10% M: ±20% N: ±30% H: $^{+50}_{-10}$% Z: $^{+80}_{-20}$% P: $^{+100}_{-0}$% R: $^{+30}_{-10}$% F: ±1%

CONSTANT TERM

- **Carbon Resistor (¼W, ±5% Tolerance)**

QRD141J-□□□ (CONSTANT TERM.)

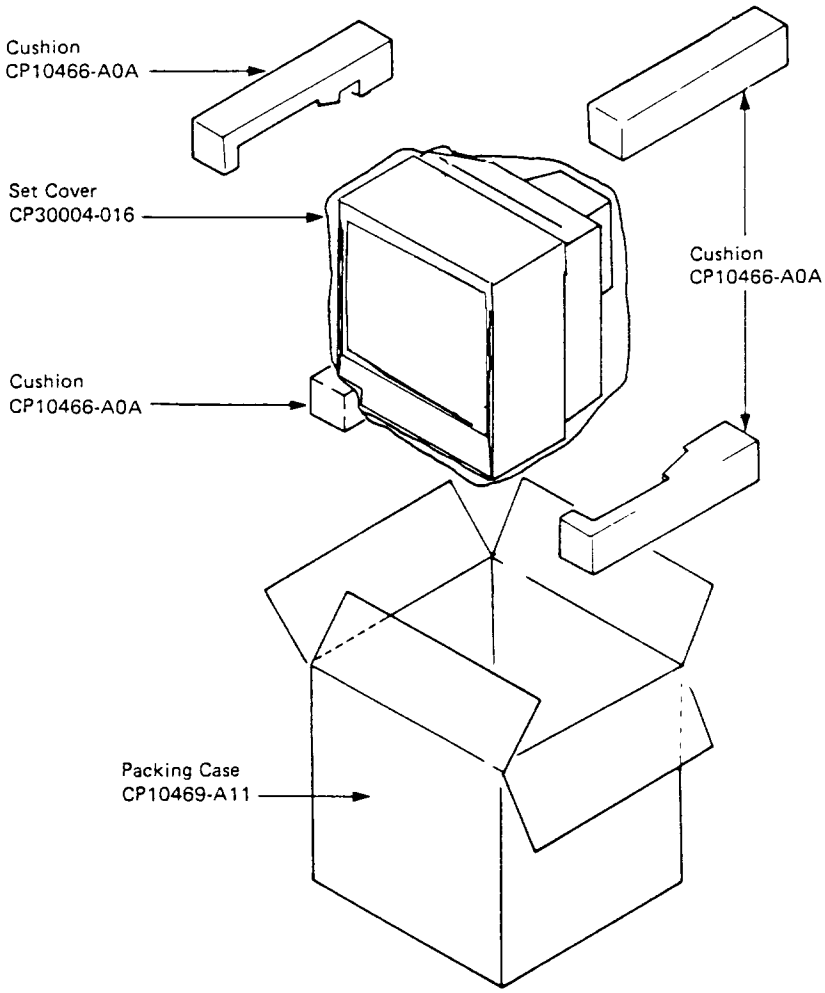
1 R 0	→ 1.0Ω	2.7Ω → QRD141J-2R7
9 R 7	→ 9.7Ω	47kΩ → 47 x 10³ → QRD141J-473
1 0 □	→ 10□ means 10 x 10□ (Ω)	
8 2 □	→ 82□ means 82 x 10□ (Ω)	

- **Ceramic Capacitor (50 Volts, ±5% Tolerance)**

QCS11HJ-□□□ (CONSTANT TERM.)

1 R 0	→ 1.0pF	5pF → QCS11HJ-5R0
8 R 0	→ 8.0pF	680pF → 68 x 10¹ → QCS11HJ-681
1 0 □	→ 10□ means 10 x 10□ (pF)	3300pF → 33 x 10² → QCS11HJ-332
8 8 □	→ 88□ means 88 x 10□ (pF)	

7. PACKING DIAGRAM



ATTACHED MATTERS

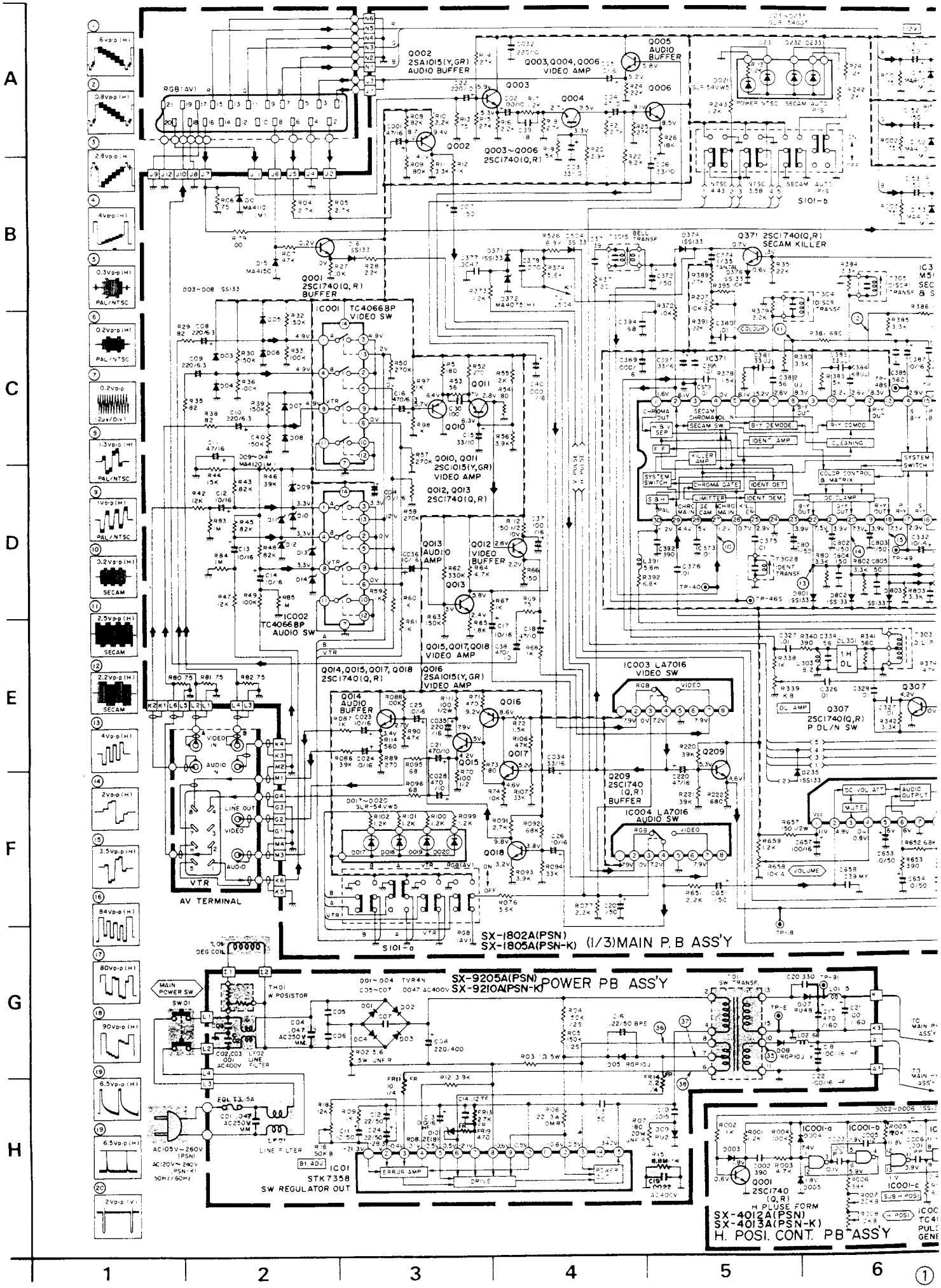
Instruction Book TM-150PSN-KIBA

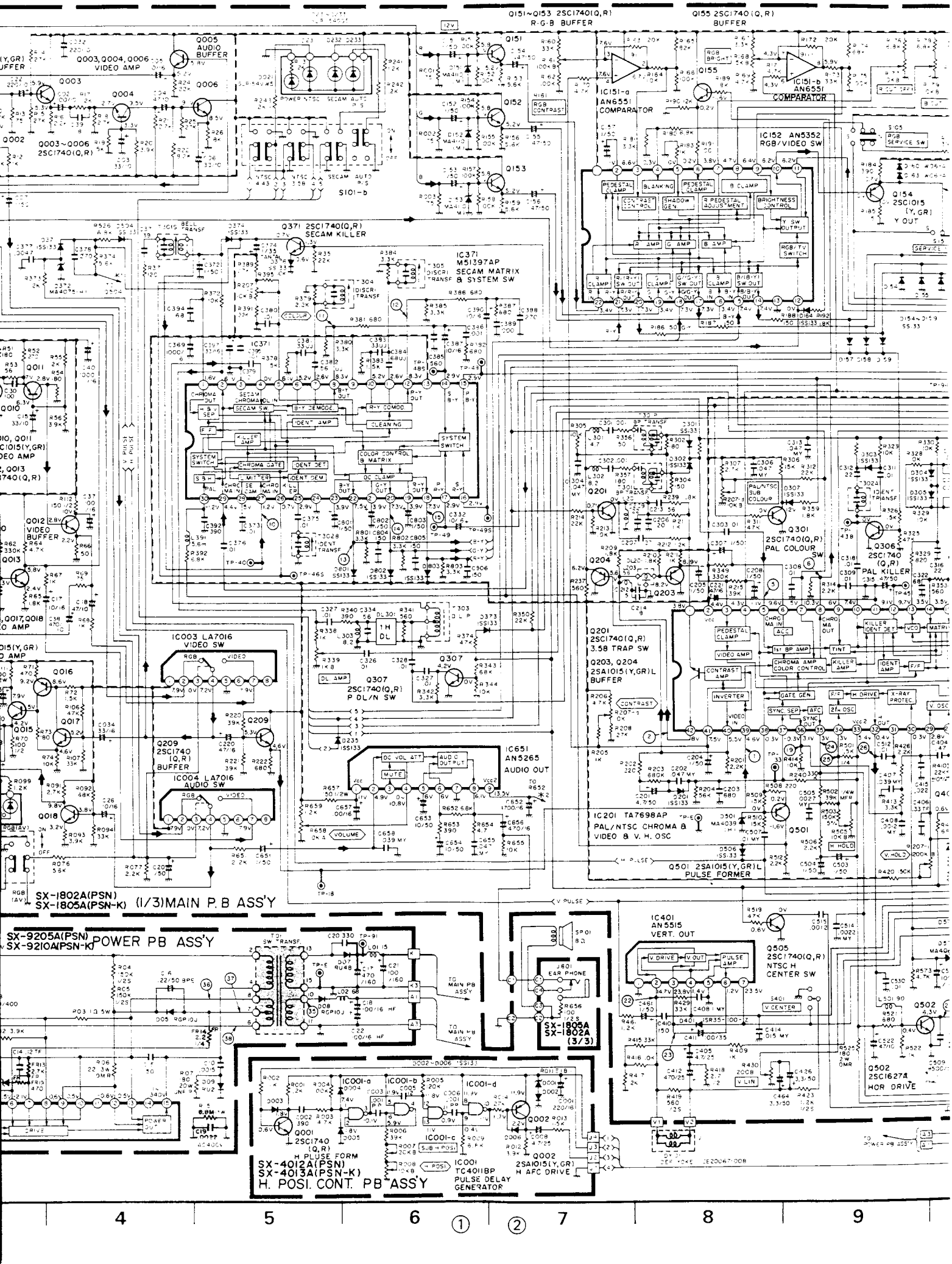
JVC

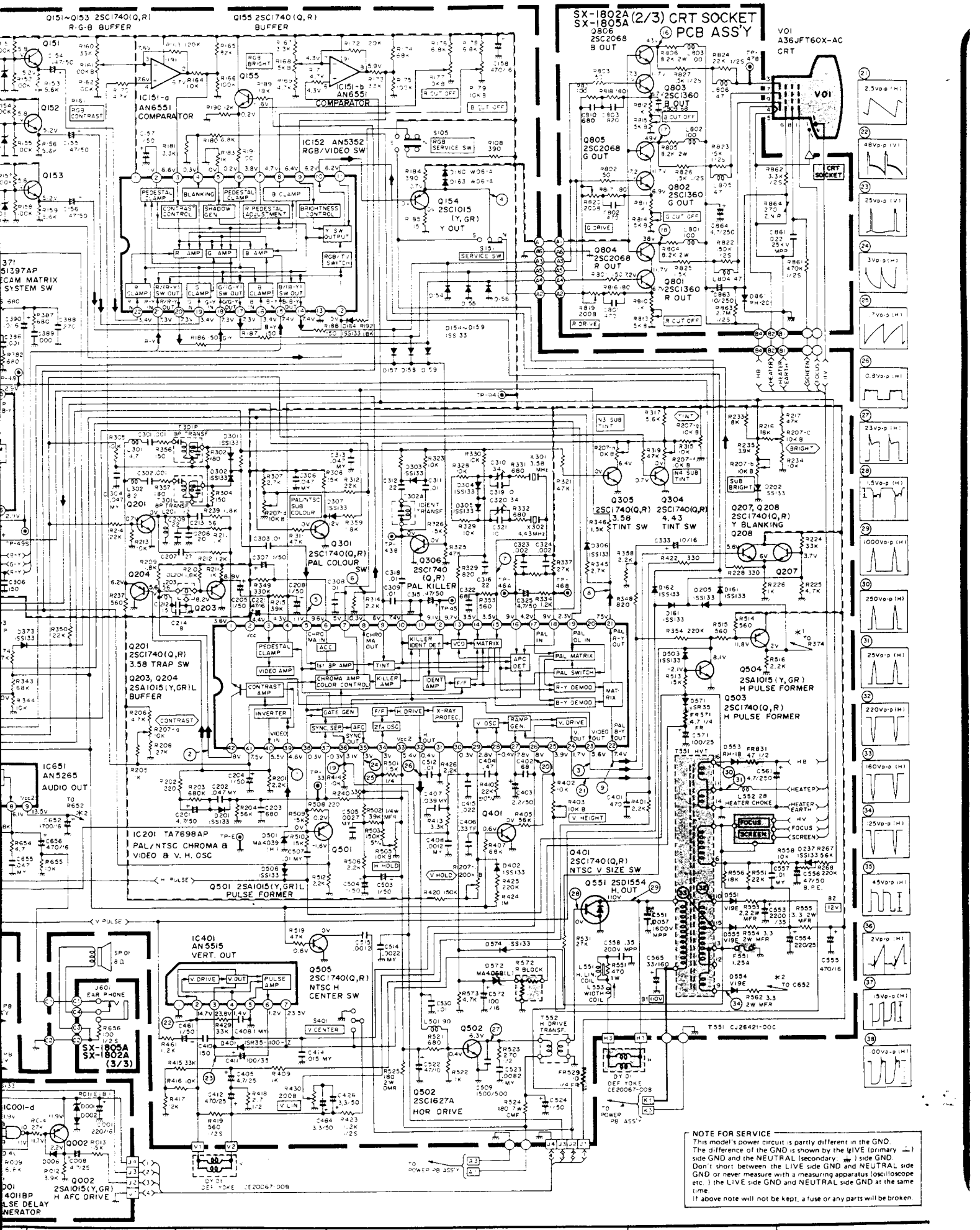
VICTOR COMPANY OF JAPAN, LIMITED
TELEVISION RECEIVER DIVISION 1106 Iwai-city, Ibaraki-prefecture, 306-06, Japan

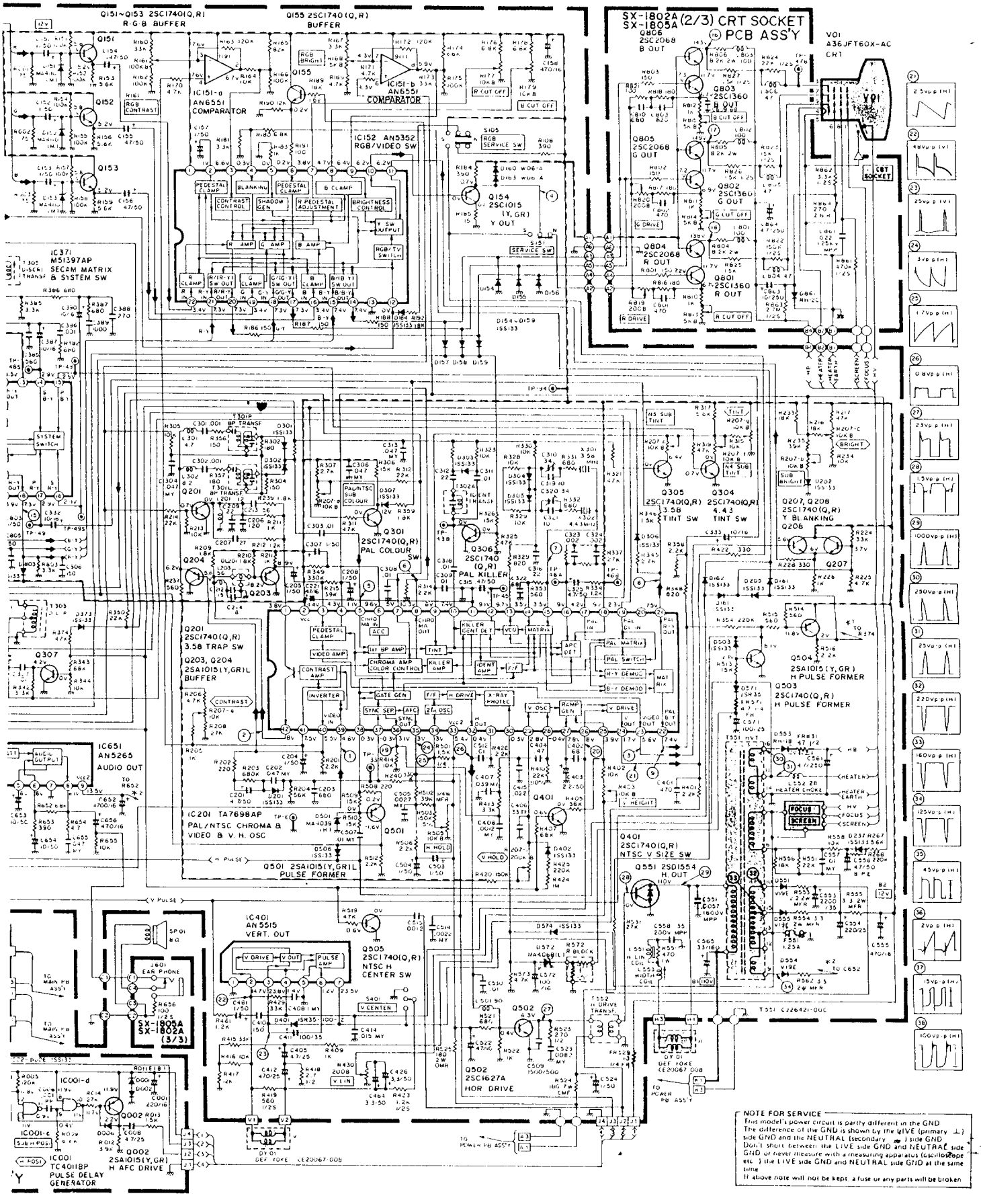
Printed in Japan
8509 Nissho

SCHEMATIC DIAGRAM




Q005 AUDIO BUFFER
Q003, Q004, Q006 VIDEO AMP
Q003 Q004 Q006
Q002
Q003~Q006 2SC1740(Q,R)
Q151~Q153 2SC1740(Q,R) R-G-B BUFFER
Q151
Q152
Q153
Q155 2SC1740(Q,R) BUFFER
Q155
IC151-a AN6551 COMPARATOR
IC151-b AN6551 COMPARATOR
IC152 AN5352 RGB/VIDEO SW
PEDESTAL CLAMP
BLANKING
PEDESTAL CLAMP
B CLAMP
CONTRAST CONTROL
SHADOW GEN.
R PEDESTAL ADJUSTMENT
BRIGHTNESS CONTROL
Y SW OUTPUT
R AMP
G AMP
B AMP
RGB/TV SWITCH
R CLAMP
R-Y/Y SW OUT
G CLAMP
G-Y/Y SW OUT
B CLAMP
B-Y/Y SW OUT
RGB SERVICE SW
Q154 2SC1015 (Y, GR) Y OUT
SERVICE
S101-b
POWER NTSC SECAM AUTO P-S
NTSC 4.43
NTSC 3.58
SECAM
AUTO P-S
Q371 2SC1740(Q,R) SECAM KILLER
IC371 M51397AP SECAM MATRIX & SYSTEM SW
DISCRI TRANSF
COLOUR
CHROMA OUT
SECAM CHROMA IN
SECAM SW
B-Y DEMODE
R-Y COMOD.
IDENT AMP
CLEANING
F/F
KILLER AMP
SYSTEM SWITCH
CHROMA GATE
IDENT DET
COLOR CONTROL & MATRIX
S/H
LIMITER
CHROMA MAIN IN
IDENT DEM
DC CLAMP
B-Y OUT
R-Y OUT
IDENT TRANSF
Q011
Q012 VIDEO BUFFER
Q013
Q017, Q018 VIDEO AMP
Q015(Y,GR) VIDEO AMP
IC003 LA7016 VIDEO SW
RGB
VIDEO
IC004 LA7016 AUDIO SW
Q016
Q017
Q015
Q018
Q209 2SC1740 (Q,R) BUFFER
Q209
Q307 2SC1740(Q,R) P DL/N SW
DL AMP
1H DL
DL LPF
Q307
IC651 AN5265 AUDIO OUT
DC VOL ATT
AUDIO OUTPUT
MUTE
VOLUME
Q201 2SC1740(Q,R) 3.58 TRAP SW
Q203, Q204 2SA1015(Y,GR)L BUFFER
Q201
Q204
Q203
Q301 2SC1740(Q,R) PAL COLOUR SW
Q301
Q306 2SC1740 (Q,R) PAL KILLER
PAL/NTSC SUB COLOUR
IDENT TRANSF
PEDESTAL CLAMP
VIDEO AMP
CONTRAST AMP
CHROMA AMP
COLOR CONTROL
KILLER AMP
IDENT AMP
F/F
1st BP AMP
TINT
VCO
MATRIX
INVERTER
GATE GEN
H DRIVE
X-RAY PROTEC
SYNC SEP
AFC
2fH OSC
SYNC OUT
IC201 TA7698AP PAL/NTSC CHROMA & VIDEO & V. H. OSC
Q501
H HOLD
V HOLD
Q501 2SA1015(Y,GR)L PULSE FORMER
H PULSE
V PULSE
SX-1802A(PSN)
SX-1805A(PSN-K) (1/3)MAIN P.B ASS'Y
SX-9205A(PSN)
SX-9210A(PSN-K) POWER PB ASS'Y
T01 SW. TRANSF.
TO MAIN PB ASS'Y
SP01 8Ω
J601 EAR PHONE
SX-1805A
SX-1802A (3/3)
IC401 AN5515 VERT. OUT
V DRIVE
V OUT
PULSE AMP
Q505 2SC1740(Q,R) NTSC H CENTER SW
V CENTER
V LIN
Q502 2SC1627A HOR DRIVE
DEF YOKE
SX-4012A(PSN)
SX-4013A(PSN-K)
H. POSI. CONT. PB ASS'Y
IC001-a
IC001-b
IC001-c
IC001-d
Q001 2SC1740 (Q,R) H PULSE FORM
Q002 2SA1015(Y,GR) H AFC DRIVE
IC001 TC4011BP PULSE DELAY GENERATOR
H POSI
SUB H POSI
4
5
6
7
8
9


Q151~Q153 2SC1740(Q,R) R-G-B BUFFER
Q155 2SC1740(Q,R) BUFFER
IC151-a AN6551 COMPARATOR
IC151-b AN6551 COMPARATOR
IC152 AN5352 RGB/VIDEO SW
SX-1802A SX-1805A (2/3) CRT SOCKET & PCB ASS'Y
V01 A36JFT60X-AC CRT
Q806 2SC2068 B OUT
Q805 2SC2068 G OUT
Q804 2SC2068 R OUT
Q803 2SC1360 B OUT
Q802 2SC1360 G OUT
Q801 2SC1360 R OUT
Q154 2SC1015 (Y,GR) Y OUT
Q201 2SC1740(Q,R) 3.58 TRAP SW
Q203, Q204 2SA1015(Y,GR)L BUFFER
Q301 2SC1740(Q,R) PAL COLOUR SW
Q306 2SC1740 (Q,R) PAL KILLER
Q305 2SC1740(Q,R) 3.58 TINT SW
Q304 2SC1740(Q,R) 4.43 TINT SW
Q207, Q208 2SC1740(Q,R) Y BLANKING
Q504 2SA1015(Y,GR) H PULSE FORMER
Q503 2SC1740(Q,R) H PULSE FORMER
Q401 2SC1740(Q,R) NTSC V SIZE SW
Q551 2SD1554 H. OUT
Q501 2SA1015(Y,GR)L PULSE FORMER
Q505 2SC1740(Q,R) NTSC H CENTER SW
Q502 2SC1627A HOR DRIVE
Q002 2SA1015(Y,GR) H AFC DRIVE
IC201 TA7698AP PAL/NTSC CHROMA & VIDEO & V. H. OSC
IC651 AN5265 AUDIO OUT
IC401 AN5515 VERT. OUT
IC001 AN5137AP SECAM MATRIX SYSTEM SW
SX-1805A SX-1802A (3/3)
T551 CJ26421-000
DY01 DEF YOKE CE20067-008
NOTE FOR SERVICE
This model's power circuit is partly different in the GND.
The difference of the GND is shown by the LIVE (primary side GND and the NEUTRAL (secondary side GND.
Don't short between the LIVE side GND and NEUTRAL side GND or never measure with a measuring apparatus (oscilloscope etc.) the LIVE side GND and NEUTRAL side GND at the same time.
If above note will not be kept, a fuse or any parts will be broken.


SX-1802A (2/3) CRT SOCKET
SX-1805A PCB ASS'Y
VO1 A36JFT60X-AC CRT
Q151~Q153 2SC1740(Q,R) R·G·B BUFFER
Q155 2SC1740(Q,R) BUFFER
IC151-a AN6551 COMPARATOR
IC151-b AN6551 COMPARATOR
IC152 AN5352 RGB/VIDEO SW
Q154 2SC1015 (Y, GR) Y OUT
Q806 2SC2068 B OUT
Q805 2SC2068 G OUT
Q804 2SC2068 R OUT
Q803 2SC1360 B OUT
Q802 2SC1360 G OUT
Q801 2SC1360 R OUT
IC371 M51397AP SECAM MATRIX & SYSTEM SW
Q201 2SC1740(Q,R) 3.58 TRAP SW
Q203, Q204 2SA1015(Y,GR)L BUFFER
Q301 2SC1740(Q,R) PAL COLOUR SW
Q305 2SC1740(Q,R) 3.58 TINT SW
Q304 2SC1740(Q,R) 4.43 TINT SW
Q207, Q208 2SC1740(Q,R) Y BLANKING
Q206
Q306 2SC1740 (Q,R) PAL KILLER
Q504 2SA1015(Y,GR) H PULSE FORMER
Q503 2SC1740(Q,R) H PULSE FORMER
IC651 AN5265 AUDIO OUT
IC201 TA7698AP PAL/NTSC CHROMA & VIDEO & V. H. OSC
Q401 2SC1740(Q,R) NTSC V SIZE SW
Q551 2SD1554 H. OUT
Q501 2SA1015(Y,GR)L PULSE FORMER
IC401 AN5515 VERT. OUT
Q505 2SC1740(Q,R) NTSC H CENTER SW
Q502 2SC1627A HOR DRIVE
IC001 TC4011BP PULSE DELAY GENERATOR
Q002 2SA1015(Y,GR) H AFC DRIVE
SX-1803A SX-1802A (3/3)
NOTE FOR SERVICE
This model's power circuit is partly different in the GND
The difference of the GND is shown by the ⏚(VE (primary ⊥) side GND and the NEUTRAL (secondary ⏚) side GND
Don't short between the LIVE side GND and NEUTRAL side GND or never measure with a measuring apparatus (oscilloscope etc.) the LIVE side GND and NEUTRAL side GND at the same time
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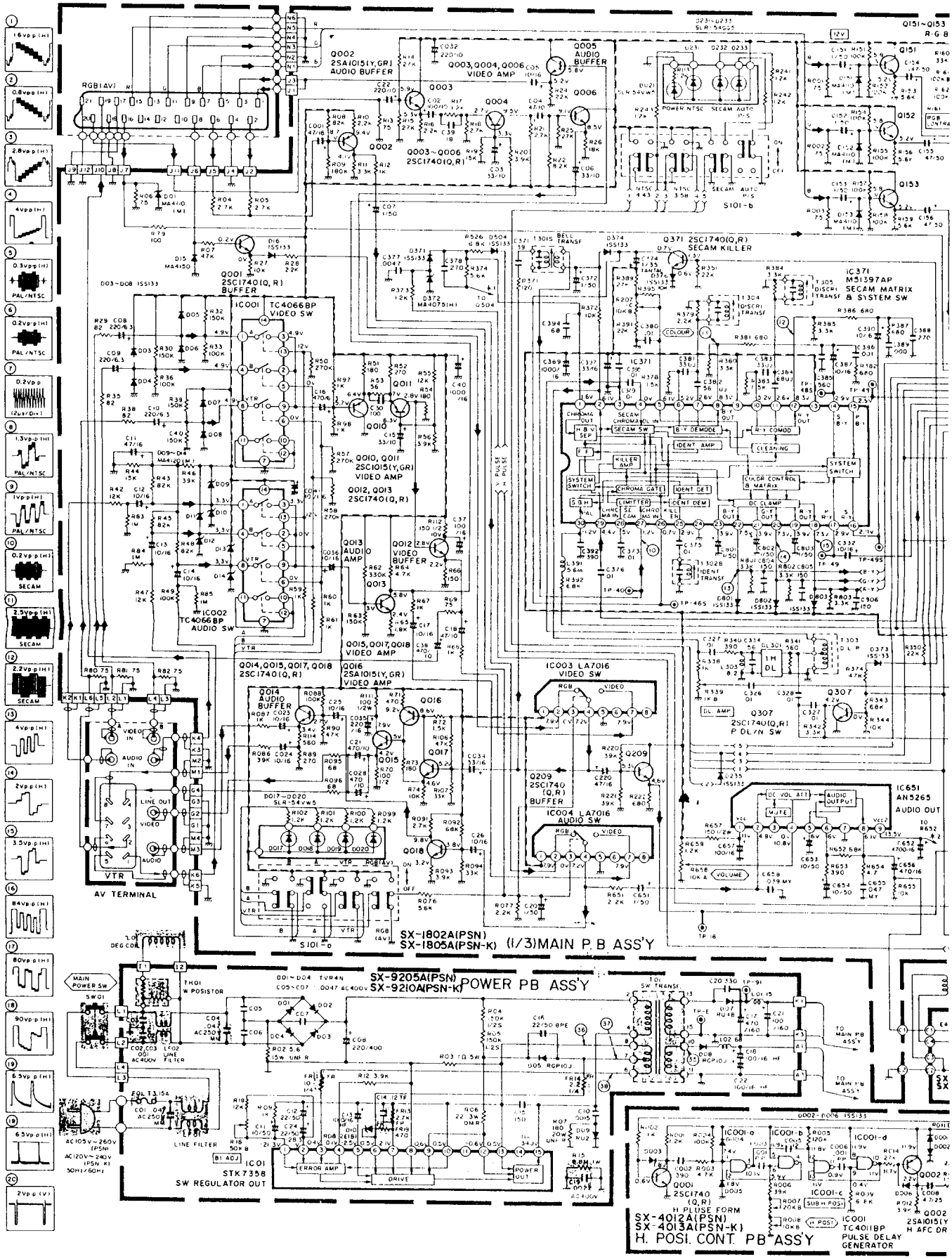
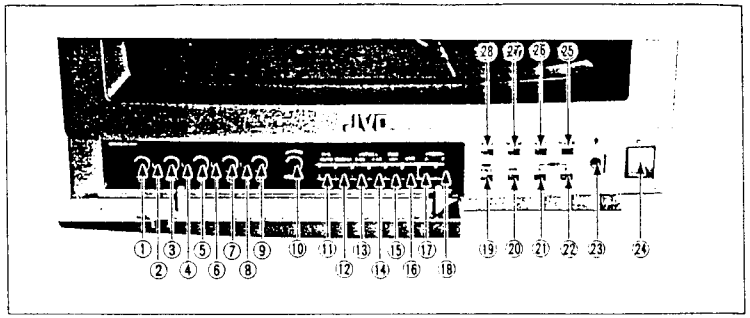
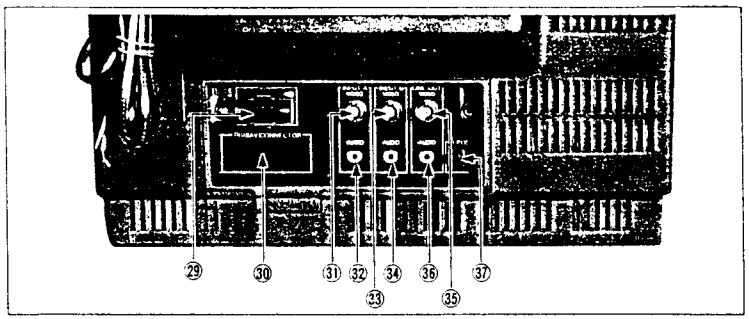

SX-1802A(PSN)
SX-1805A(PSN-K) (1/3)MAIN P.B ASS'Y
SX-9205A(PSN)
SX-9210A(PSN-K) POWER PB ASS'Y
SX-4012A(PSN)
SX-4013A(PSN-K)
H. POSI. CONT. PB ASS'Y
AV TERMINAL
IC001 TC4066BP VIDEO SW
IC002 TC4066BP AUDIO SW
IC003 LA7016 VIDEO SW
IC004 LA7016 AUDIO SW
IC651 AN5265 AUDIO OUT
IC371 M51397AP SECAM MATRIX & SYSTEM SW
IC01 STK7358 SW REGULATOR OUT
IC001 TC4011BP PULSE DELAY GENERATOR
Q001 2SC1740(Q,R) BUFFER
Q002 2SA1015(Y,GR) AUDIO BUFFER
Q003~Q006 2SC1740(Q,R)
Q003,Q004,Q006 VIDEO AMP
Q005 AUDIO BUFFER
Q010,Q011 2SC1015(Y,GR) VIDEO AMP
Q012,Q013 2SC1740(Q,R)
Q013 AUDIO AMP
Q012 VIDEO BUFFER
Q014,Q015,Q017,Q018 2SC1740(Q,R)
Q016 2SA1015(Y,GR) VIDEO AMP
Q014 AUDIO BUFFER
Q209 2SC1740(Q,R) BUFFER
Q307 2SC1740(Q,R) P.DL/N SW
Q371 2SC1740(Q,R) SECAM KILLER
Q151~Q153 R-G-B
S101-a
S101-b
S101-c
S101-d
VTR
SECAM
PAL/NTSC
VIDEO
AUDIO
LINE OUT
MAIN POWER SW
LINE FILTER
SW REGULATOR OUT
H PLUSE FORM
H. POSI. CONT. PB ASS'Y
TO MAIN PB ASS'Y
TO SW TRANSF.
TO DEG COIL
TO TP-91
TO TP-40
TO TP-465
TO TP-495
TO TP-49
TO TP-16
TO R652
TO Q504
TO Q371
TO Q151
TO Q152
TO Q153
TO R652
TO R652
TO R652

FUNCTIONS

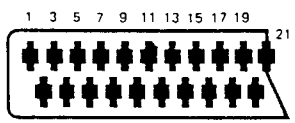
① V. HOLD
② SUB TINT
③ TINT
④ SUB COLOUR
⑤ COLOUR
⑥ SUB BRIGHTNESS
⑦ BRIGHTNESS
⑧ SUB CONTRAST
⑨ CONTRAST
⑩ VOLUME
⑪ P/S AUTO SWITCH
⑫ SECAM SWITCH
⑬ NTSC (3.58) SWITCH
⑭ NTSC (4.43) SWITCH
⑮ RGB (AV) SWITCH
⑯ VTR SWITCH
⑰ VIDEO A SWITCH
⑱ VIDEO B SWITCH
⑲ RGB (AV) INDICATOR
⑳ VTR INDICATOR
㉑ VIDEO A INDICATOR
㉒ VIDEO B INDICATOR
㉓ EARPHONE JACK
㉔ POWER SWITCH
㉕ POWER INDICATOR
㉖ NTSC INDICATOR
㉗ SECAM INDICATOR
㉘ P/S AUTO INDICATOR



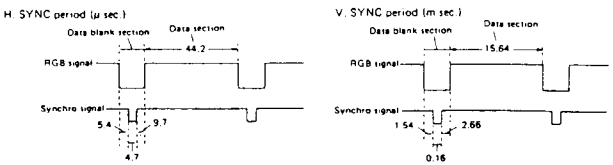


㉙ VTR CONNECTOR
㉚ RGB (AV) CONNECTOR
㉛ INPUT A (VIDEO)
㉜ INPUT A (AUDIO)
㉝ INPUT B (VIDEO)
㉞ INPUT B (AUDIO)
㉟ LINE OUT (VIDEO)
㊱ LINE OUT (AUDIO)
㊲ H. POSITION CONTROL

■ RGB (AV) Connector



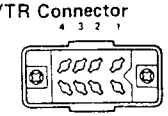
■ RGB (AV) connector recommended input signal



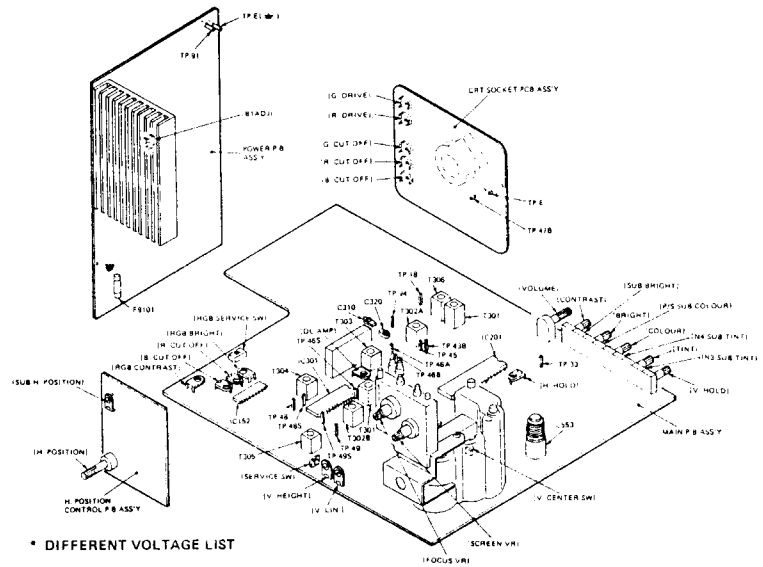
DESIGNATION	PIN NO.
AUDIO OUT (500mVrms Low Impedance)	1 , 3
AUDIO IN (500mVrms High Impedance)	2 , 6
GROUND for AUDIO	4
VIDEO OUT (1Vp-p 75Ω)	19
VIDEO IN (1Vp-p 75Ω)	20
GROUND for VIDEO	17
SLOW SW L(0~2V)-INTERNAL H(9.5~12V)-ACTIVE	8
NO CONNECTION	10, 12, 14

DESIGNATION	PIN NO.
RED IN (700mVp-p, 75Ω)	15
GROUND for RED	13
GREEN IN (700mVp-p, 75Ω)	11
GROUND for GREEN	9
BLUE IN (700mVp-p, 75Ω)	7
GROUND for BLUE	5
FAST SW L(0~0.4V)-INTERNAL H(1~3V)-ACTIVE	16
GROUND for SW	18
GROUND for SCREEN	21

■ VTR Connector



DESIGNATION	PIN NO.
AUDIO IN	1
VIDEO IN	2
GROUND (VIDEO OUT)	3
VIDEO OUT	4
GROUND (AUDIO IN)	5
" (VIDEO IN)	6
" (AUDIO OUT)	7
AUDIO OUT	8



* DIFFERENT VOLTAGE LIST

MAIN P.B. ASS'Y

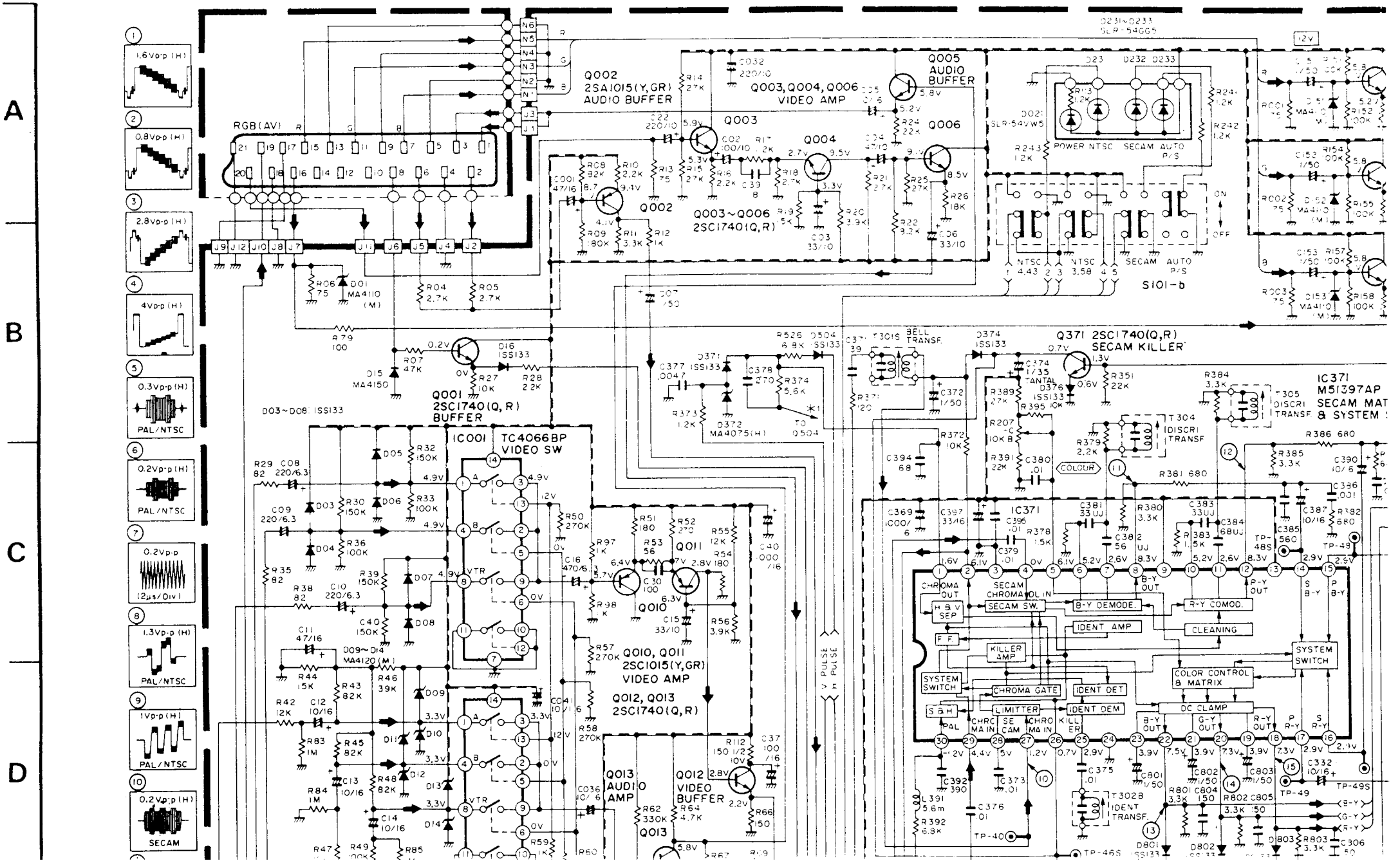
IC No. / IC Pin No. / System SW Position	IC001			IC002			IC003	IC004	IC152		
	5	6	13	5	6	13	3	3	16	19	22
VIDEO A	0	0	12	0	0	12	0	0	3.4	3.4	3.4
VIDEO B	12	0	0	12	0	0	0	0	3.4	3.4	3.4
VTR	0	12	0	0	12	0	0	0	2.1	2.1	2.1
RGB (AV)	0	0	0	0	0	0	3.8	3.8	2.1	2.1	2.1

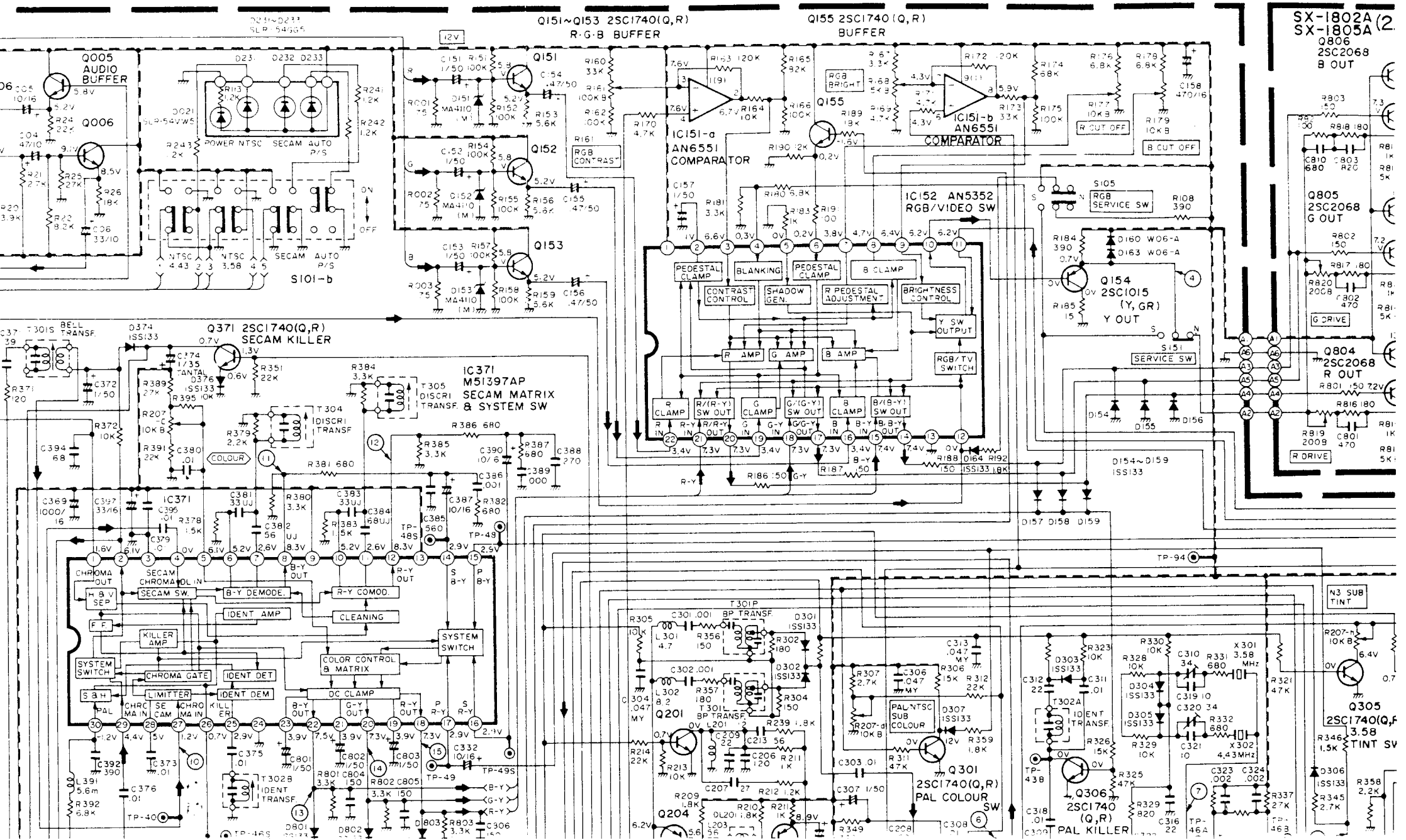
IC No. / IC Pin No. / System SW Position	IC201					IC371						
	6	7	9	12	19	4	6	10	26	27	28	29
PAL	9.6	5	6	9.1	2.3	0	5.2	5.2	0.7	1.2	5	4.4
SECAM	9.9	0.1	6.4	6.9	4.2	2.9	4.2	4.2	10.2	6.1	6.1	5.4
NTSC (4.43)	9.6	0.1	6.4	6.5	2.3	0	5.2	5.2	0.7	1.2	5	4.4
NTSC (3.58)	9.6	5	6	9.1	2.3	0	5.2	5.2	0.7	1.2	5	4.4

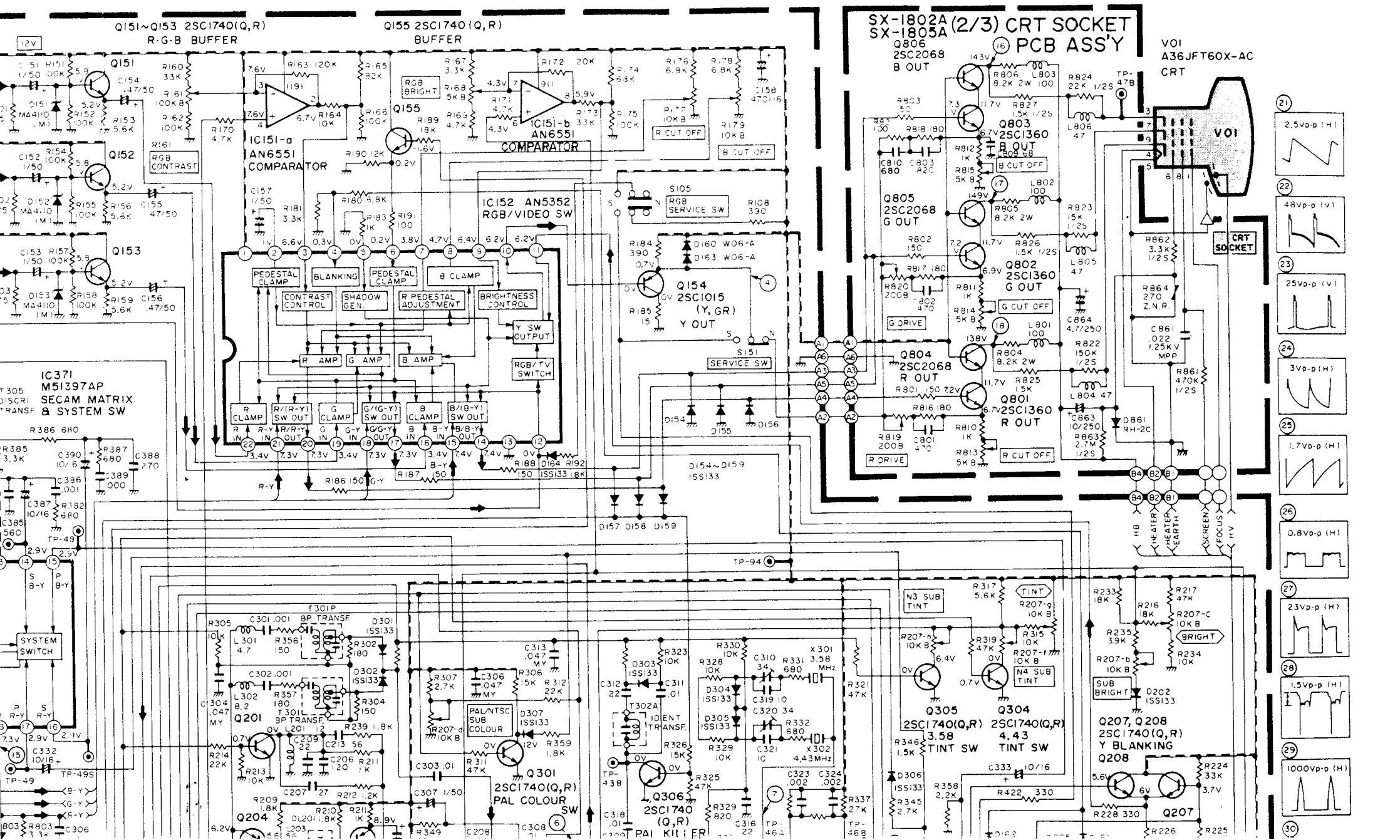
Tr. Symbol / Electrode / System SW Position	Q154			Q201			Q301			Q304			Q305		
	B	C	E	B	C	E	B	C	E	B	C	E	B	C	E
PAL	0	0.7	0	0.7	0	0	0	12	0	0.7	0	0	0	6.4	0
SECAM	0	0.7	0	0.7	0	0	0	12	0	0.7	0	0	0	6.3	0
NTSC (4.43)	0.7	0	0	0.7	0	0	0.7	0.1	0	0	6.0	0	0.7	0	0
NTSC (3.58)	0.7	0	0	0	0	0	0.7	0.1	0	0.7	0	0	0	6.3	0

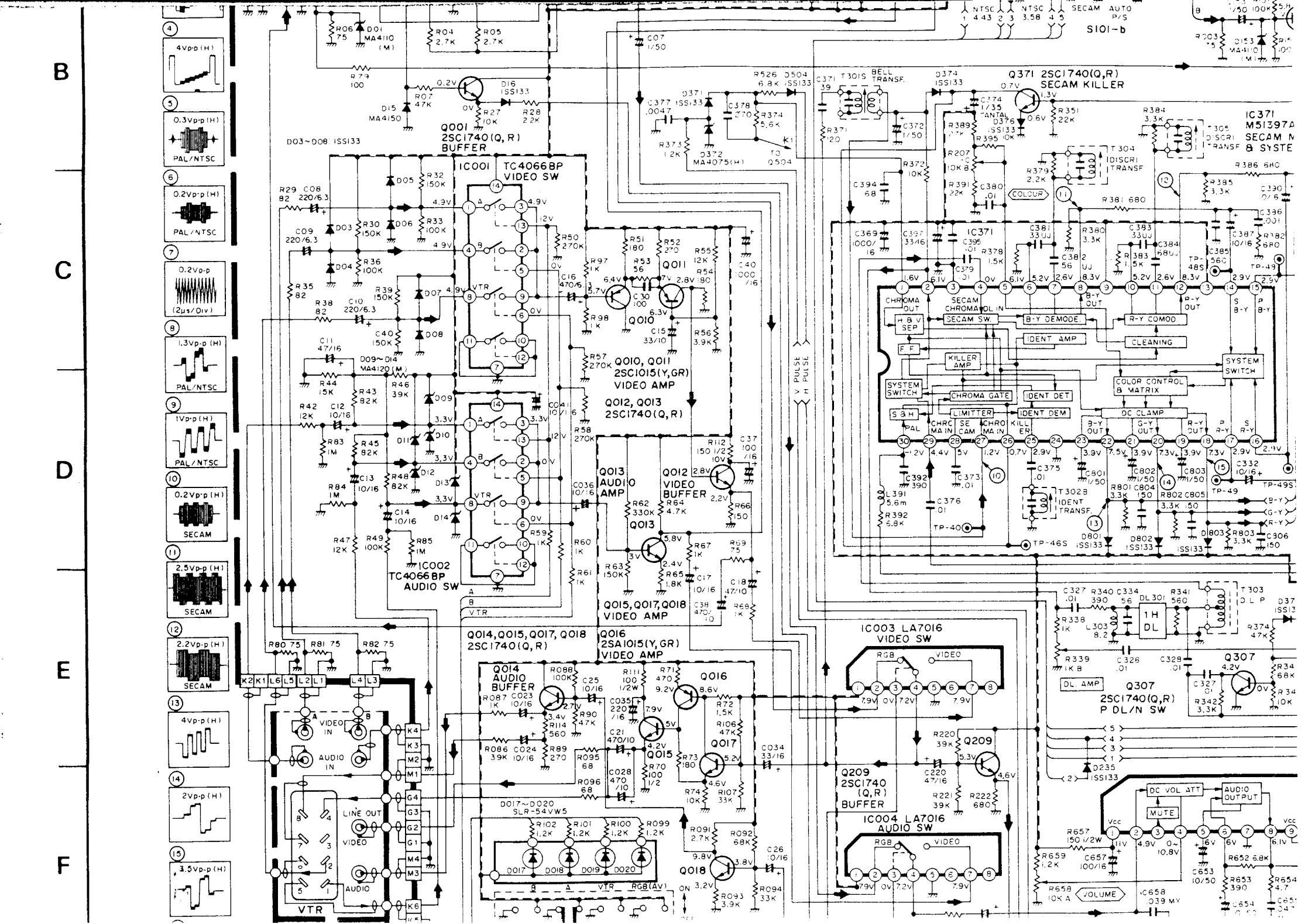
Tr. Symbol / Electrode / System SW Position	Q306			Q307			Q371			Q401			Q505		
	B	C	E	B	C	E	B	C	E	B	C	E	B	C	E
PAL	0	0	0	0	4.2	0	1.3	0.7	0.6	0.6	0	0	0.6	0	0
SECAM	0.7	0	0	0	4.2	0	0.3	10.2	0	0	3.9	0	0	0.7	0
NTSC (4.43)	0	0	0	0.6	0	0	1.3	0.7	0.6	0.6	0	0	0.7	0	0
NTSC (3.58)	0	0	0	0.6	0	0	1.3	0.7	0.6	0.6	0	0	0.6	0	0

SCHEMATIC DIAGRAM

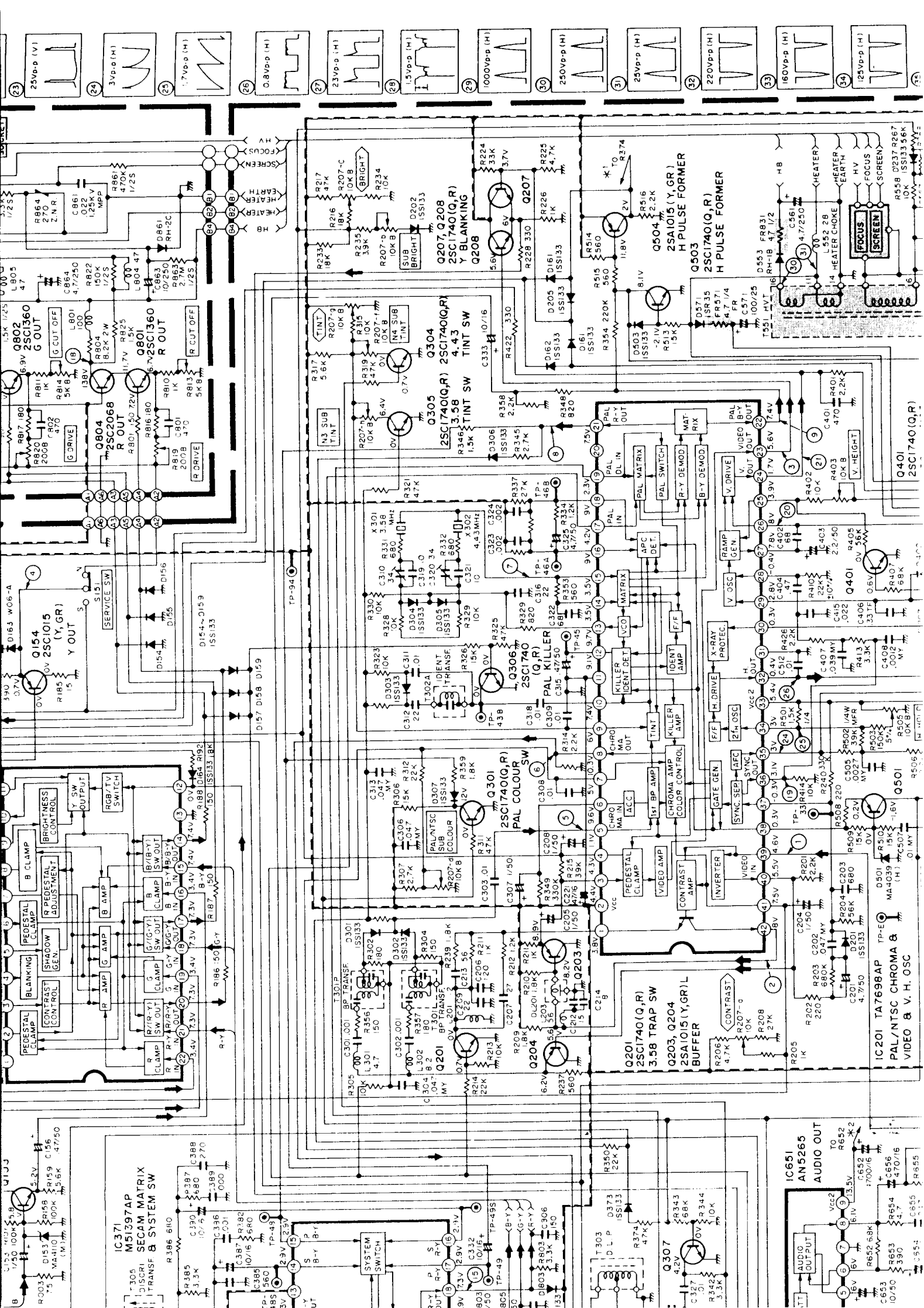


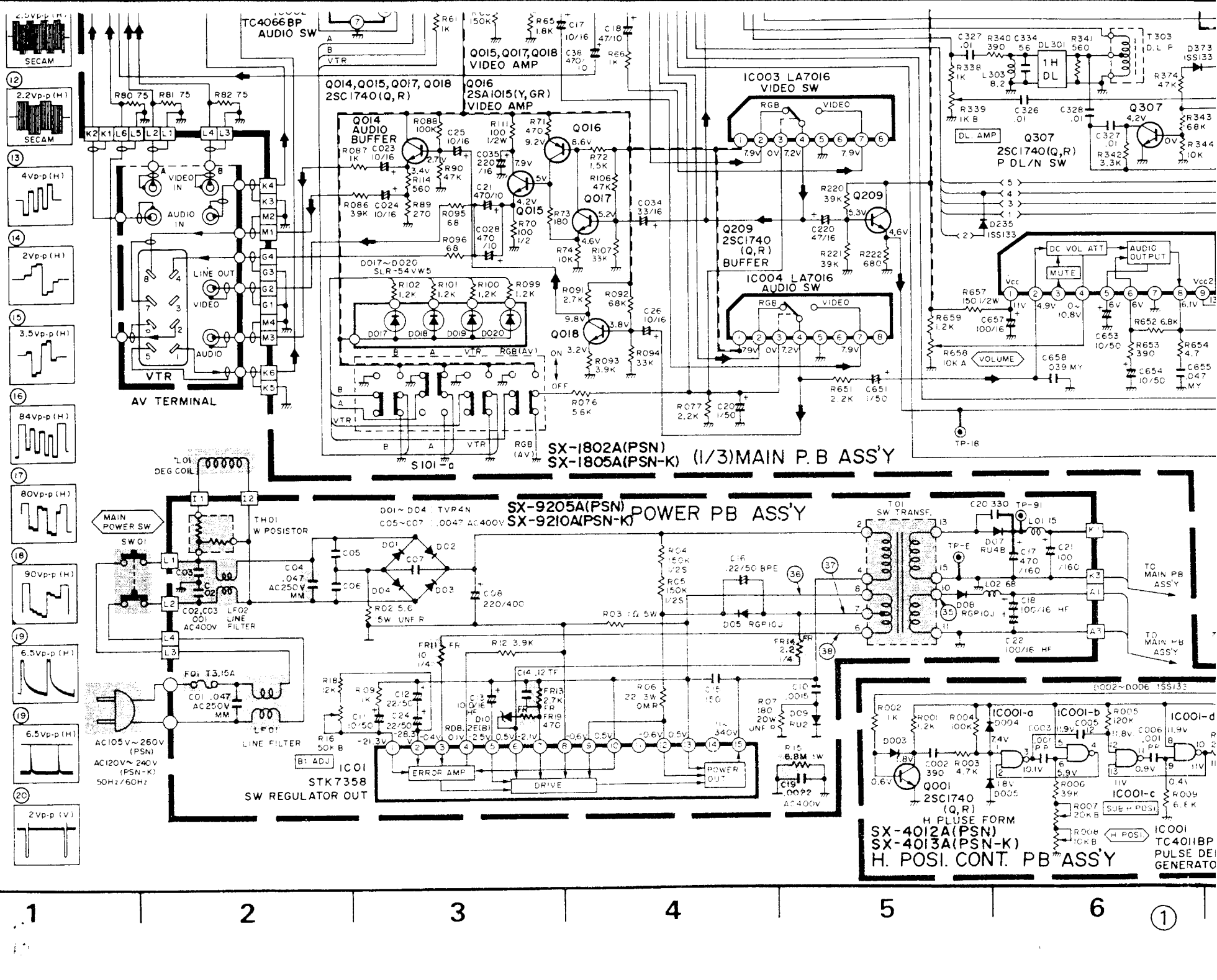

Q005 AUDIO BUFFER
Q006
S101-b
POWER NTSC SECAM AUTO P/S
Q151~Q153 2SC1740(Q,R) R-G-B BUFFER
Q151
Q152
Q153
RGB CONTRAST
Q155 2SC1740(Q,R) BUFFER
RGB BRIGHT
IC151-a AN6551 COMPARATOR
IC151-b AN6551 COMPARATOR
R CUT OFF
B CUT OFF
IC152 AN5352 RGB/VIDEO SW
PEDESTAL CLAMP
BLANKING
PEDESTAL CLAMP
B CLAMP
CONTRAST CONTROL
SHADOW GEN.
R PEDESTAL ADJUSTMENT
BRIGHTNESS CONTROL
Y SW OUTPUT
R AMP
G AMP
B AMP
RGB/TV SWITCH
R CLAMP
R/(R-Y) SW OUT
G CLAMP
G/(G-Y) SW OUT
B CLAMP
B/(B-Y) SW OUT
S105 RGB SERVICE SW
S151 SERVICE SW
Q154 2SC1015 (Y, GR) Y OUT
G DRIVE
R DRIVE
D154~D159 ISS133
Q371 2SC1740(Q,R) SECAM KILLER
IC371 M51397AP SECAM MATRIX & SYSTEM SW
T305 DISCRI TRANSF.
T304 DISCRI TRANSF
T301S BELL TRANSF.
COLOUR
CHROMA OUT
SECAM CHROMA IN
SECAM SW.
B-Y DEMODE.
R-Y COMOD.
IDENT AMP
CLEANING
F F
KILLER AMP
SYSTEM SWITCH
COLOR CONTROL & MATRIX
CHROMA GATE
IDENT DET
LIMITTER
IDENT DEM
DC CLAMP
T302B IDENT TRANSF.
T301P BP TRANSF.
Q201
Q204
Q301 2SC1740(Q,R) PAL COLOUR SW
PAL/NTSC SUB COLOUR
T302A IDENT TRANSF.
Q306 2SC1740 (Q,R) PAL KILLER
X301 3.58 MHz
X302 4.43MHz
N3 SUB TINT
Q305 2SC1740(Q,R) 3.58 TINT SW
SX-1802A (2.
SX-1805A
Q806 2SC2068 B OUT
Q805 2SC2068 G OUT
Q804 2SC2068 R OUT

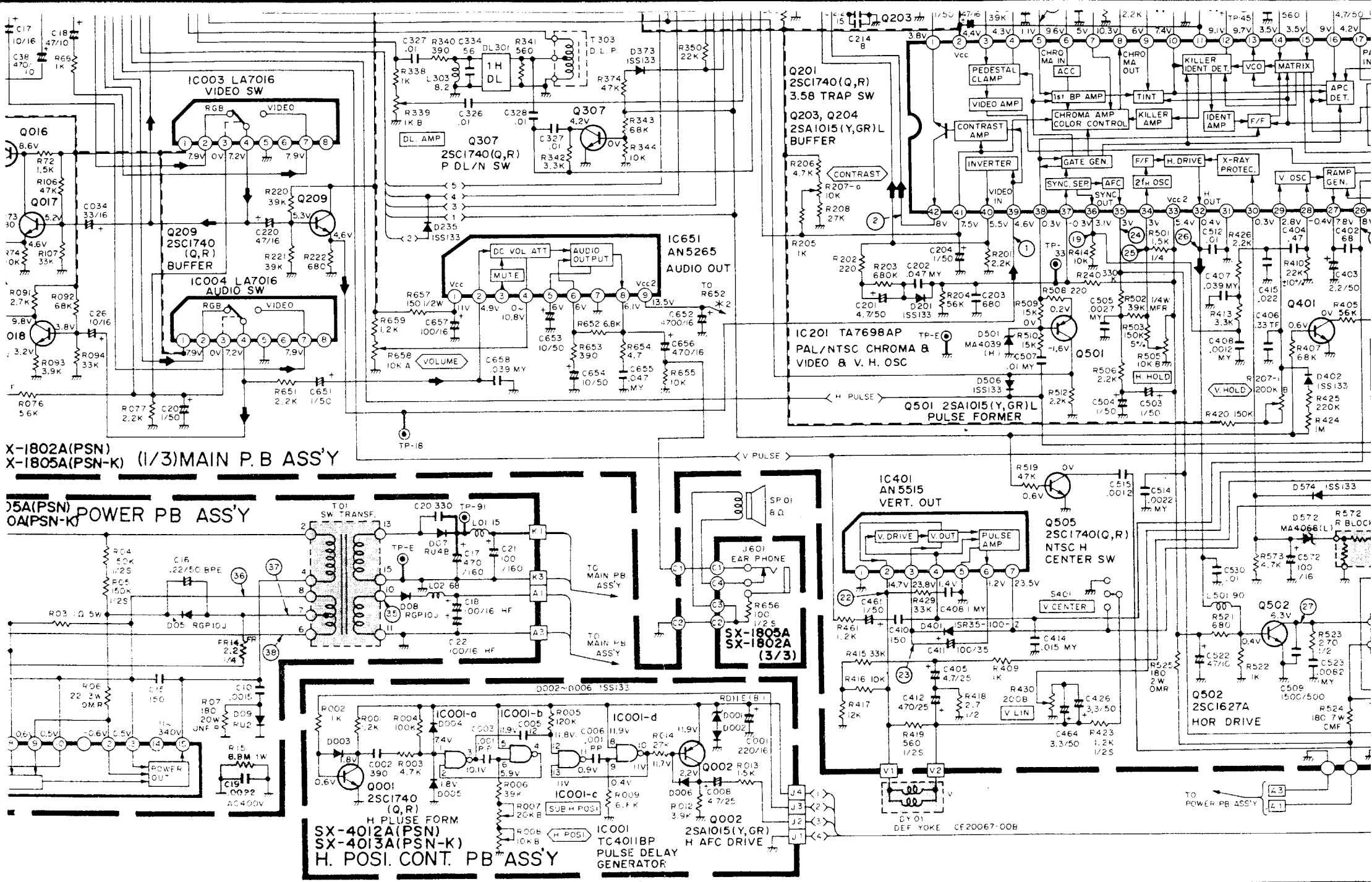

Q151~Q153 2SC1740(Q,R)
R-G-B BUFFER
Q155 2SC1740(Q,R)
BUFFER
SX-1802A
SX-1805A
(2/3) CRT SOCKET
PCB ASS'Y
V01
A36JFT60X-AC
CRT
IC151-a
AN6551
COMPARATOR
IC151-b
AN6551
COMPARATOR
IC152 AN5352
RGB/VIDEO SW
IC371
M51397AP
SECAM MATRIX
& SYSTEM SW
Q154
2SC1015
(Y, GR)
Y OUT
Q806
2SC2068
B OUT
Q805
2SC2068
G OUT
Q804
2SC2068
R OUT
Q803
2SC1360
B OUT
Q802
2SC1360
G OUT
Q801
2SC1360
R OUT
Q201
Q204
Q301
2SC1740(Q,R)
PAL COLOUR
SW
Q305
2SC1740(Q,R)
3.58
TINT SW
Q304
2SC1740(Q,R)
4.43
TINT SW
Q306
2SC1740
(Q,R)
PAL KILLER
Q207, Q208
2SC1740(Q,R)
Y BLANKING
Q207
Q208
PEDESTAL CLAMP
BLANKING
PEDESTAL CLAMP
B CLAMP
CONTRAST CONTROL
SHADOW GEN.
R PEDESTAL ADJUSTMENT
BRIGHTNESS CONTROL
Y SW OUTPUT
R AMP
G AMP
B AMP
RGB/TV SWITCH
R CLAMP
R/(R-Y) SW OUT
G CLAMP
G/(G-Y) SW OUT
B CLAMP
B/(B-Y) SW OUT
RGB BRIGHT
RGB CONTRAST
RGB SERVICE SW
SERVICE SW
R CUT OFF
G CUT OFF
B CUT OFF
R DRIVE
G DRIVE
B DRIVE
SYSTEM SWITCH
PAL/NTSC SUB COLOUR
IDENT TRANSF
N3 SUB TINT
N4 SUB TINT
SUB BRIGHT
BRIGHT
TINT
CRT SOCKET
HB
HEATER
HEATER EARTH
SCREEN
FOCUS
HV
2.5Vp-p (H)
48Vp-p (V)
25Vp-p (V)
3Vp-p (H)
1.7Vp-p (H)
0.8Vp-p (H)
23Vp-p (H)
1.5Vp-p (H)
1000Vp-p (H)

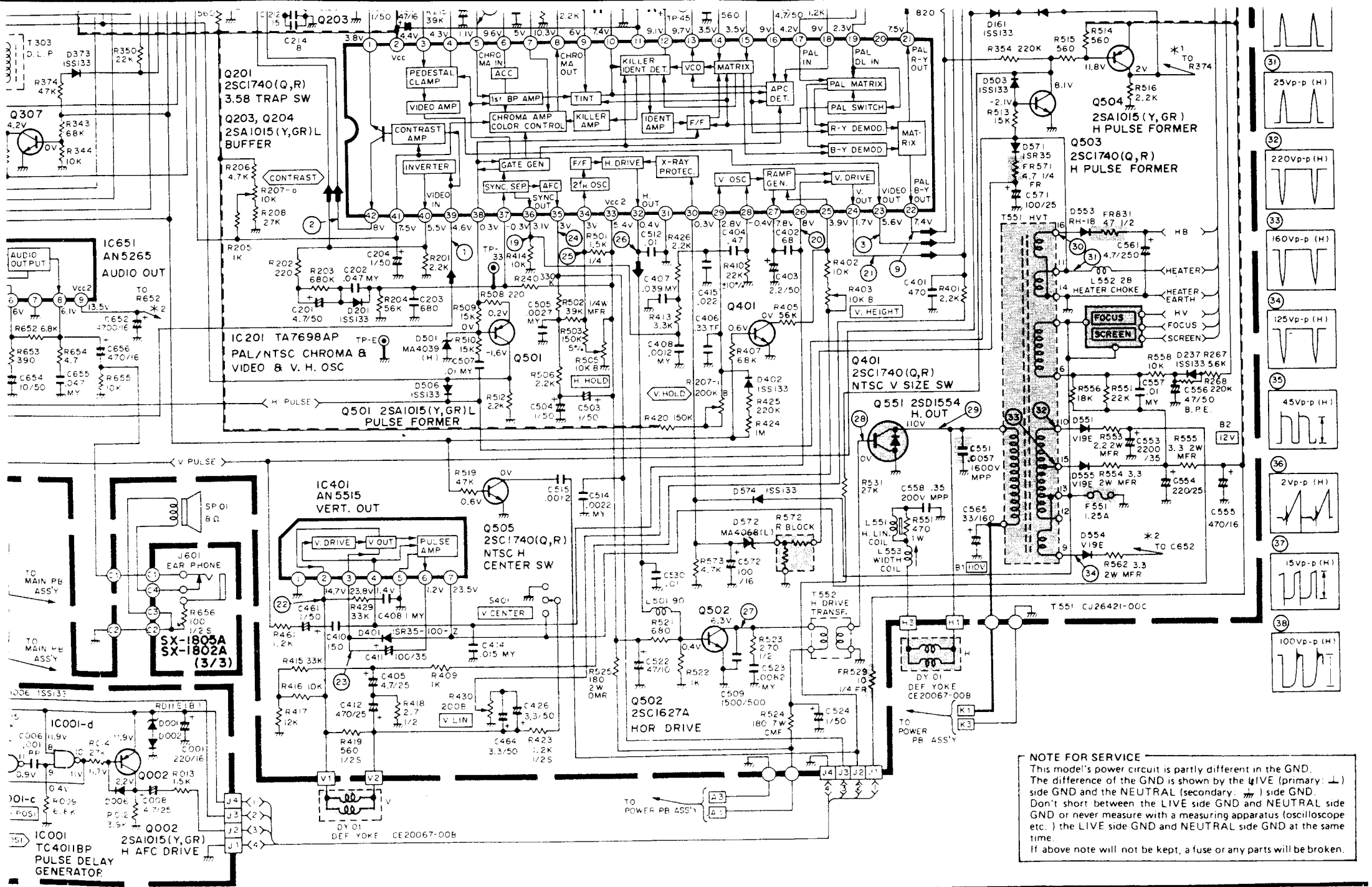

Q001 2SC1740(Q,R) BUFFER
D03~D08 1SS133
IC001 TC4066BP VIDEO SW
Q010, Q011 2SC1015(Y,GR) VIDEO AMP
Q012, Q013 2SC1740(Q,R)
IC002 TC4066BP AUDIO SW
Q013 AUDIO AMP
Q012 VIDEO BUFFER
Q014, Q015, Q017, Q018 2SC1740(Q,R)
Q016 2SA1015(Y,GR) VIDEO AMP
Q015, Q017, Q018 VIDEO AMP
Q014 AUDIO BUFFER
D017~D020 SLR-54VW5
Q371 2SC1740(Q,R) SECAM KILLER
T301S BELL TRANSF
T304 DISCRI TRANSF
T305 DISCRI TRANSF
IC371 M51397A SECAM & SYSTE
COLOUR
CHROMA OUT
SECAM CHROMA DL IN
H & V SEP
SECAM SW.
B-Y DEMODE.
R-Y COMOD
IDENT AMP
CLEANING
F F
KILLER AMP
SYSTEM SWITCH
CHROMA GATE
IDENT DET
S & H
LIMITTER
IDENT DEM
DC CLAMP
COLOR CONTROL & MATRIX
CHRC MAIN PAL
SE CAM
CHRO MA IN
KILL ER
B-Y OUT
G-Y OUT
R-Y OUT
P R-Y
S R-Y
T3028 IDENT TRANSF.
T303 D L P
1H DL
DL. AMP
Q307 2SC1740(Q,R) P DL/N SW
IC003 LA7016 VIDEO SW
IC004 LA7016 AUDIO SW
Q209 2SC1740 (Q,R) BUFFER
DC VOL ATT
AUDIO OUTPUT
MUTE
VOLUME
V PULSE
H PULSE
VIDEO IN
AUDIO IN
LINE OUT
VIDEO
AUDIO
VTR
RGB
S101-b
4Vp-p (H)
0.3Vp-p (H) PAL/NTSC
0.2Vp-p (H) PAL/NTSC
0.2Vp-p PAL/NTSC (2μs/Div)
1.3Vp-p (H) PAL/NTSC
1Vp-p (H) PAL/NTSC
0.2Vp-p (H) SECAM
2.5Vp-p (H) SECAM
2.2Vp-p (H) SECAM
4Vp-p (H)
2Vp-p (H)
3.5Vp-p (H)

Q154 2SC1015 (Y, GR) Y OUT
SERVICE SW
S151
Q153
IC371 M51397AP SECAM MATRIX & SYSTEM SW
Q371 2SC1740(Q,R) SECAM KILLER
S101-b SECAM AUTO P/S
T301S BELL TRANSF
Q301 2SC1740(Q,R) PAL COLOUR SW
Q201 2SC1740(Q,R) 3.58 TRAP SW
Q203, Q204 2SA1015(Y,GR) BUFFER
IC201 TA7698AP PAL/NTSC CHROMA & PAL/NTSC SW
Q307 2SC1740(Q,R) P DL/N SW
IC651 AN5265 AUDIO OUT
IC003 LA7016 VIDEO SW
IC004 LA7016 AUDIO SW
Q209 2SC1740 (Q,R) BUFFER
Q012 VIDEO BUFFER
Q013, Q011 2SA1015(Y,GR) VIDEO AMP
Q017, Q018 2SA1015(Y,GR) AMP
Q016
Q017
Q018
Q015


Q154 2SC1015 (Y, GR) Y OUT
Q802 2SC1360 G OUT
Q801 2SC1360 R OUT
Q804 2SC2068 R OUT
Q207, Q208 2SC1740(Q,R) Y BLANKING
Q304 2SC1740(Q,R) 4.43 TINT SW
Q305 2SC1740(Q,R) 3.58 TINT SW
Q306 2SC1740 (Q,R) PAL KILLER
Q301 2SC1740(Q,R) PAL COLOUR SW
Q201 2SC1740(Q,R) 3.58 TRAP SW
Q203, Q204 2SA1015(Y,GR)L BUFFER
Q307
Q504 2SA1015(Y,GR) H PULSE FORMER
Q503 2SC1740(Q,R) H PULSE FORMER
Q401 2SC1740(Q,R)
IC201 TA7698AP PAL/NTSC CHROMA & VIDEO & V. H. OSC
IC371 M51397AP SECAM MATRIX & SYSTEM SW
IC651 AN5265 AUDIO OUT
SERVICE SW
Y SW OUTPUT
RGB/TV SWITCH
BRIGHTNESS CONTROL
B CLAMP
R PEDESTAL ADJUSTMENT
PEDESTAL CLAMP
B AMP
BLANKING
SHADOW GEN.
G AMP
CONTRAST CONTROL
R AMP
R CLAMP
G CLAMP
R-Y SW OUT
G-Y SW OUT
B-Y SW OUT
G CUT OFF
R CUT OFF
G DRIVE
R DRIVE
TINT
BRIGHT
SUB BRIGHT
SUB TINT
N3 SUB TINT
N4 SUB TINT
PAL DL IN
PAL MATRIX
PAL SWITCH
R-Y DEMOD
B-Y DEMOD
MATRIX
PAL R-Y OUT
PAL B-Y OUT
V. DRIVE
V. OUT
VIDEO OUT
V. HEIGHT
RAMP GEN.
V. OSC
APC DET.
PAL IN
MATRIX
VCO
F/F
IDENT DET.
IDENT AMP
KILLER IDENT DET.
KILLER AMP
TINT
CHROMA OUT
CHROMA IN
ACC
1st BP AMP
CHROMA AMP COLOR CONTROL
PEDESTAL CLAMP
VIDEO AMP
CONTRAST AMP
INVERTER
VIDEO IN
GATE GEN.
SYNC. SEP.
AFC
SYNC OUT
X-RAY PROTECT.
H. DRIVE
H OUT
F/F
2fH OSC
CONTRAST
SYSTEM SWITCH
AUDIO OUTPUT
TO R652
TO R374
HEATER
HEATER EARTH
HV
FOCUS
SCREEN
HEATER CHOKE
FOCUS
SCREEN
T551 HVT
T303 D.L.P.
T301 DISCRI. TRANSF.
T302 IDENT TRANSF.
T201 BP TRANSF.
25Vp-p (V)
3Vp-p (H)
1.7Vp-p (H)
0.8Vp-p (H)
23Vp-p (H)
1.5Vp-p (H)
1000Vp-p (H)
250Vp-p (H)
25Vp-p (H)
220Vp-p (H)
160Vp-p (H)
125Vp-p (H)


SECAM
2.2Vp-p (H)
SECAM
4Vp-p (H)
2Vp-p (H)
3.5Vp-p (H)
84Vp-p (H)
80Vp-p (H)
90Vp-p (H)
6.5Vp-p (H)
6.5Vp-p (H)
2Vp-p (V)
TC4066BP
AUDIO SW
Q014,Q015,Q017,Q018
2SC1740(Q,R)
Q016
2SA1015(Y,GR)
VIDEO AMP
Q015,Q017,Q018
VIDEO AMP
IC003 LA7016
VIDEO SW
IC004 LA7016
AUDIO SW
Q014
AUDIO
BUFFER
Q016
Q017
Q015
Q209
2SC1740
(Q,R)
BUFFER
Q209
Q307
4.2V
Q307
2SC1740(Q,R)
P DL/N SW
DL. AMP
1H
DL
T303
D.L.P
D373
1SS133
D235
1SS133
DC VOL ATT
AUDIO
OUTPUT
MUTE
VOLUME
AV TERMINAL
VTR
VIDEO IN
AUDIO IN
LINE OUT
VIDEO
AUDIO
SLR-54VW5
D017~D020
S101
TP-16
SX-1802A(PSN)
SX-1805A(PSN-K) (1/3)MAIN P.B ASS'Y
SX-9205A(PSN)
SX-9210A(PSN-K) POWER PB ASS'Y
MAIN
POWER SW
SW01
TH01
W POSISTOR
L01
DEG COIL
T01
SW TRANSF.
LF01
LINE FILTER
LF02
LINE
FILTER
FU1 T3.15A
AC105V~260V
(PSN)
AC120V~240V
(PSN-K)
50Hz/60Hz
B1 ADJ
IC01
STK7358
SW REGULATOR OUT
ERROR AMP
DRIVE
POWER
OUT
TO
MAIN PB
ASS'Y
TO
MAIN PB
ASS'Y
D001~D004 TVR4N
D005~D007 .0047 AC400V
D002~D006 1SS133
IC001-a
IC001-b
IC001-c
IC001-d
Q001
2SC1740
(Q,R)
H PLUSE FORM
SX-4012A(PSN)
SX-4013A(PSN-K)
H. POSI. CONT. PB ASS'Y
IC001
TC4011BP
PULSE DE
GENERATO
H POSI
SUB H POSI
E
F
G
H
1
2
3
4
5
6


IC003 LA7016
VIDEO SW
IC004 LA7016
AUDIO SW
Q016
Q017
Q209
2SC1740
(Q,R)
BUFFER
Q307
2SC1740(Q,R)
P DL/N SW
DL. AMP
1H
DL
IC651
AN5265
AUDIO OUT
DC VOL ATT
AUDIO
OUTPUT
MUTE
VOLUME
TO R652
Q201
2SC1740(Q,R)
3.58 TRAP SW
Q203, Q204
2SA1015(Y,GR)L
BUFFER
IC201 TA7698AP
PAL/NTSC CHROMA &
VIDEO & V. H. OSC
Q501 2SA1015(Y,GR)L
PULSE FORMER
H PULSE
V PULSE
PEDESTAL
CLAMP
VIDEO AMP
CONTRAST
AMP
INVERTER
CONTRAST
CHROMA
AMP
ACC
1st BP AMP
CHROMA AMP
COLOR CONTROL
KILLER
AMP
KILLER
IDENT DET.
IDENT
AMP
VCO
MATRIX
TINT
APC
DET.
F/F
GATE GEN.
SYNC. SEP
AFC
SYNC
OUT
2fH OSC
H. DRIVE
X-RAY
PROTEC.
V. OSC
RAMP
GEN.
V. HOLD
H. HOLD
Q401
Q501
IC401
AN5515
VERT. OUT
V. DRIVE
V. OUT
PULSE
AMP
Q505
2SC1740(Q,R)
NTSC H
CENTER SW
V. CENTER
Q502
2SC1627A
HOR DRIVE
V LIN
SP01
8Ω
J601
EAR PHONE
SX-1805A
SX-1802A
(3/3)
T01
SW TRANSF.
TO
MAIN PB
ASS'Y
TO
POWER PB ASS'Y
DY01
DEF YOKE
CF20067-00B
IC001-a
IC001-b
IC001-c
IC001-d
IC001
TC4011BP
PULSE DELAY
GENERATOR
Q001
2SC1740
(Q,R)
H PLUSE FORM
Q002
2SA1015(Y,GR)
H AFC DRIVE
SUB H POSI
H POSI
D002~D006 1SS133
SX-1802A(PSN)
X-1805A(PSN-K) (1/3)MAIN P.B ASS'Y
05A(PSN)
0A(PSN-K) POWER PB ASS'Y
SX-4012A(PSN)
SX-4013A(PSN-K)
H. POSI. CONT. PB ASS'Y
4
5
6
1
2
7
8
9


Q201
2SC1740(Q,R)
3.58 TRAP SW
Q203, Q204
2SA1015(Y,GR)L
BUFFER
IC201 TA7698AP
PAL/NTSC CHROMA &
VIDEO & V. H. OSC
Q501 2SA1015(Y,GR)L
PULSE FORMER
Q401
2SC1740(Q,R)
NTSC V SIZE SW
Q551 2SD1554
H. OUT
Q505
2SC1740(Q,R)
NTSC H
CENTER SW
IC401
AN5515
VERT. OUT
Q502
2SC1627A
HOR DRIVE
IC651
AN5265
AUDIO OUT
Q503
2SC1740(Q,R)
H PULSE FORMER
Q504
2SA1015(Y,GR)
H PULSE FORMER
IC001
TC4011BP
PULSE DELAY
GENERATOR
Q002
2SA1015(Y,GR)
H AFC DRIVE
SX-1805A
SX-1802A
(3/3)
T551 CJ26421-00C
DY 01
DEF YOKE
CE20067-00B
NOTE FOR SERVICE
This model's power circuit is partly different in the GND.
The difference of the GND is shown by the LIVE (primary: ⊥) side GND and the NEUTRAL (secondary: ⏚) side GND.
Don't short between the LIVE side GND and NEUTRAL side GND or never measure with a measuring apparatus (oscilloscope etc.) the LIVE side GND and NEUTRAL side GND at the same time.
If above note will not be kept, a fuse or any parts will be broken.

JVC TM-150PSN-K SCHEMATIC DIAGRAM

■ NOTICE

- Measurement of voltage values and waveforms was conducted by creating picture displays from color bar video signals of PAL, SECAM, and NTSC (3.58 MHz/4.43 MHz) respectively after setting the SYSTEM SWITCH at the AUTO position.
- The measurements were made with each VR under the condition just after the shipment. The figures of the signal circuits may be more or less different after adjustments, so use the figures simply for reference.
- [Voltage value description method]
  The described voltage values denote those obtained when pictures are created from PAL signals and VIDEO A mode. As these values may change at a different position of the system switch, please refer to the different voltage list on page (6).
  Multimeter used
  DC 20 kΩ/V
  Given figures are all DC voltages.
  Sweep speed of oscilloscope
  H → 20 μS/siv. V → 5 mS/div.
  Others → sweep speed specified
- Since the schematic diagram is a standard one, the circuit and circuit constants may be subject to change for improvement without any notice.

SAFETY

FR (-WW-FR) denotes a fusible resistor which operates as a fuse. When replacing fusible resistors parts indicated with black shading (▒▒▒) in the circuit diagrams, be sure to ensure safety by using designated parts.
As to other parts too, use designated parts to maintain safety and performance.

INDICATION OF PARTS SYMBOL

Inside board (Example) SX-1805A: R1209 → R209
Outside board (Example) R0001 → R01

SCHEMATIC DIAGRAM INDICATION

Resistor

- Resistance value
  Without unit: [Ω] K : [kΩ] M : [MΩ]
- Rated allowable power
  Without indication : 1/6W, Others Indicated
- Type

Without indication	: Carbon resistor
OMR	: Oxide metal film resistor
UNF	: Unflammable resistor
MF R	: Metal film resistor
FR	: Fusible resistor

* Composition resistor 1/2 [W] is indicated as 1/2S or Comp.

Capacitor

- Capacitance
  Above 1 [pF] : Below 1 [μF]
- Withstand voltage
  Without indication : DC 50 [V]
  Others : DC withstand voltage [V]
  AC indicated : AC withstand voltage [V]
- Indications for electrolitic capacitors are as follows.
  (Example)
  47/50 → capacitance [μF] / withstand voltage [V]
- Type

Without indication	: Ceramic capacitor
MY	: Mylar capacitor
MM	: Metalized mylar capacitor
PP	: Polypropylene capacitor
MPP	: Metalized polypropylene capacitor
NP	: Nonpolar electrolytic capacitor
BP	: Bipolar electrolytic capacitor
TAN.	: Tantalum capacitor

Coil

Without unit : [μH]

Connection method

▭: Connector, ⟶ : Receptacle
o ◯: Wrapping or soldering

Power Supply

▬▬: B_1 Voltage (110V) ▬ ▬ ▬: B_2 Voltage (12V)

* Respective voltage values are indicated on schematic diagram.

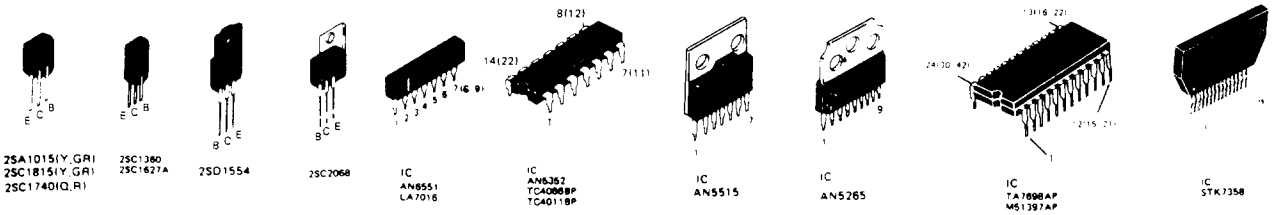
Test point & GND. symbol.

- : Test point by miniature GT pin
- : Only test point display
- ⊥ : Live (Primary) side ground
- ⏚ : Neutral (Secondary) side ground

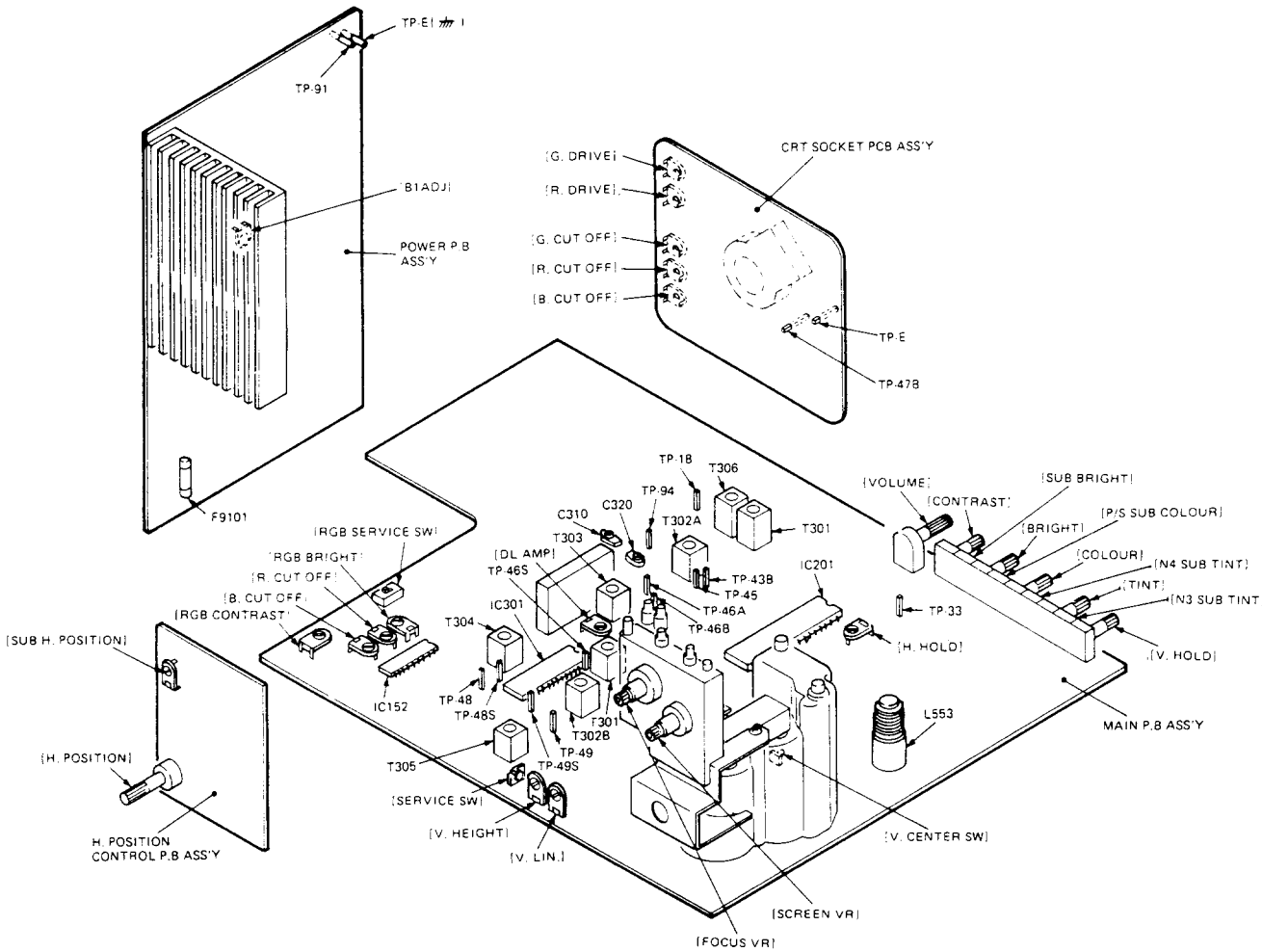
NOTE FOR SERVICE

This model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE (primary: ⊥) side GND and the NEUTRAL (secondary: ⏚) side GND.
Don't short between the LIVE side GND and NEUTRAL side GND or never measure with a measuring apparatus (oscilloscope etc.) the LIVE side GND and NEUTRAL side GND at the same time.
If above note will not be kept, a fuse or any parts will be broken.

■ BASINGS OF TRANSISTORS & ICs



■ ALIGNMENT LOCATION

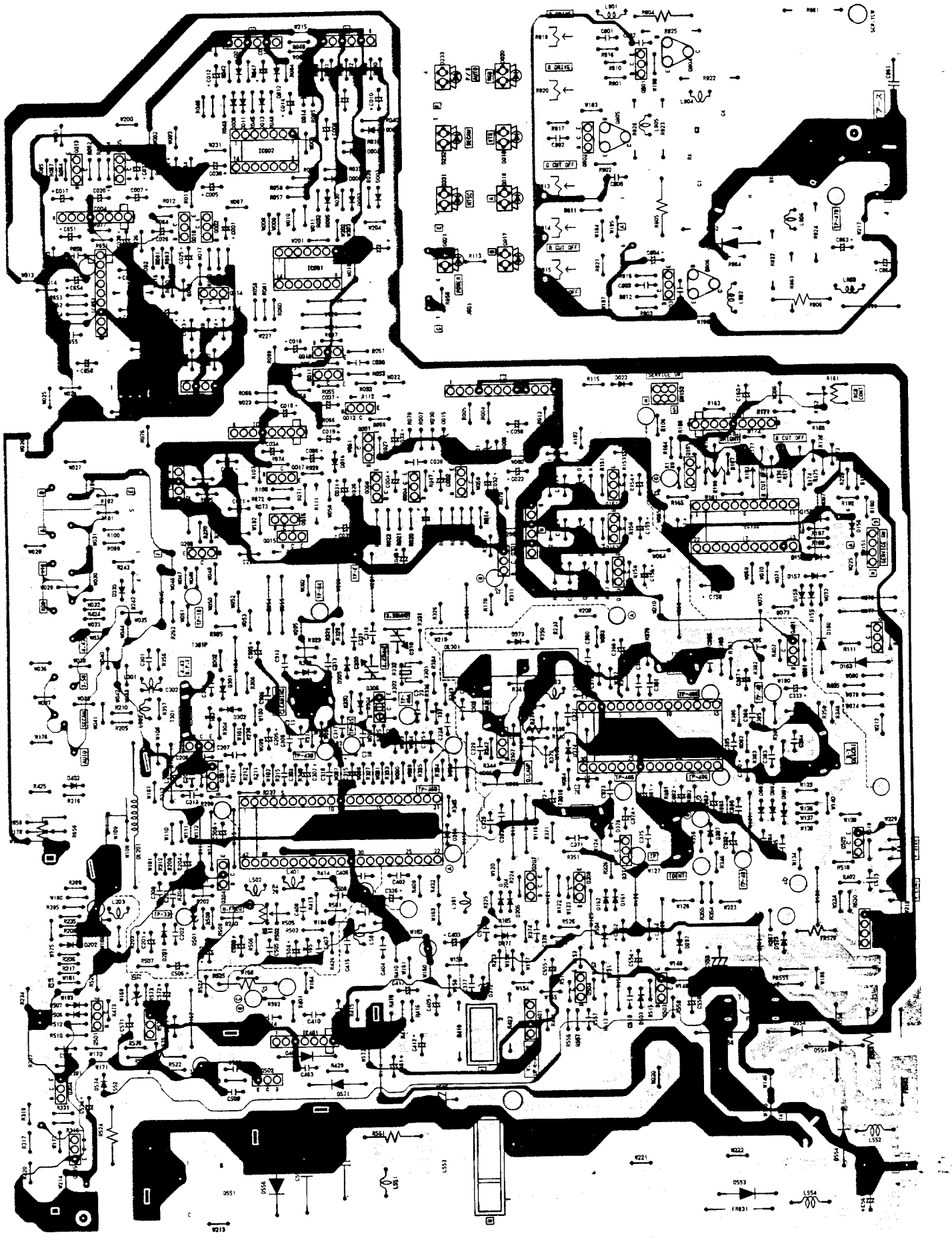


■ PARTS LIST (Shaded Parts in the Schematic Diagram)

Symbol No.	Part No.	Part Name
SX-1805A (MAIN PB ASS'Y)		
R1572	CJ39520-00Q	R Block
C1551	QFZ0081-5701S	MPP Cap.
D1572	MA4068(L)	Zener Diode
Q1551	2SD1554	Si. Transistor
FR1529	QRZ0054-100M	F R
1571	QRZ0054-4R7M	"
1831	QRH127J-470M	"
F1551	QMF51E2-1R25S	Fuse
	CE40228-00D	CRT Socket
SX-9210A (POWER PB ASS'Y)		
R9015	QRZ0057-685	C R
C9001	QFZ9017-473M	MM Cap.
9002	QCZ9012-102M	C Cap.
9003	"	"
9004	QFZ9017-473M	MM Cap.
9019	QCZ9012-222M	C Cap.
T9001	CE40839-00A	SW Transf.

Symbol No.	Part No.	Part Name
FR9011	QRZ0054-100M	F R
9013	QRH127J-272M	"
9014	QRZ0054-2R2M	"
9019	QRZ0054-471M	"
F9001	QMF51E2-3R15S	Fuse
LF9001	CE40719-00A	Line Filter
LF9002	"	"
TH9001	A76038	W Posistor
OUTSIDE OF PB ASS'Y		
V01	A36JFT60X-AC	Picture Tube
L01	CJ30013-00D	Degaussing Coil
DY01	CE20067-00B	Def. Yoke Ass'y
SW01	QSP4D21-C04	Power Switch
T1551	CJ26421-00C	HV Transf.
	QMP5138-200R	Power Cord

MAIN PB BACK PATTERN



* DIFFERENT VOLTAGE LIST

MAIN P.B. ASS'Y

IC No. / IC Pin No. / System SW Position	IC001			IC002			IC003	IC004	IC152		
	5	6	13	5	6	13	3	3	16	19	22
VIDEO A	0	0	12	0	0	12	0	0	3.4	3.4	3.4
VIDEO B	12	0	0	12	0	0	0	0	3.4	3.4	3.4
VTR	0	12	0	0	12	0	0	0	2.1	2.1	2.1
RGB (AV)	0	0	0	0	0	0	3.8	3.8	2.1	2.1	2.1

IC No. / IC Pin No. / System SW Position	IC201					IC371						
	6	7	9	12	19	4	6	10	26	27	28	29
PAL	9.6	5	6	9.1	2.3	0	5.2	5.2	0.7	1.2	5	4.4
SECAM	9.9	0.1	6.4	6.9	4.2	2.9	4.2	4.2	10.2	6.1	6.1	5.4
NTSC (4.43)	9.6	0.1	6.4	6.5	2.3	0	5.2	5.2	0.7	1.2	5	4.4
NTSC (3.58)	9.6	5	6	9.1	2.3	0	5.2	5.2	0.7	1.2	5	4.4

Tr Symbol / Electrode / System SW Position	Q154			Q201			Q301			Q304			Q305		
	B	C	E	B	C	E	B	C	E	B	C	E	B	C	E
PAL	0	0.7	0	0.7	0	0	0	12	0	0.7	0	0	0	6.4	0
SECAM	0	0.7	0	0.7	0	0	0	12	0	0.7	0	0	0	6.3	0
NTSC (4.43)	0.7	0	0	0.7	0	0	0.7	0.1	0	0	6.0	0	0.7	0	0
NTSC (3.58)	0.7	0	0	0	0	0	0.7	0.1	0	0.7	0	0	0	6.3	0

Tr Symbol / Electrode / System SW Position	Q306			Q307			Q371			Q401			Q505		
	B	C	E	B	C	E	B	C	E	B	C	E	B	C	E
PAL	0	0	0	0	4.2	0	1.3	0.7	0.6	0.6	0	0	0.6	0	0
SECAM	0.7	0	0	0	4.2	0	0.3	10.2	0	0	3.9	0	0	0.7	0
NTSC (4.43)	0	0	0	0.6	0	0	1.3	0.7	0.6	0.6	0	0	0.7	0	0
NTSC (3.58)	0	0	0	0.6	0	0	1.3	0.7	0.6	0.6	0	0	0.6	0	0